

**15 MAXX TIRES TESTED** SLICKS TO KNOBS

**RADIO CONTROL**

# car action

THE WORLD'S BEST-SELLING RC CAR MAGAZINE

47380

## SURPRISE ATTACK!

We drive the  
all new  
**Tamiya  
Terra  
Crusher**

**CHEAP TRICKS**  
**10** MICRO RS4  
MODS

### SNOW JOB!

Prep Your Gear for  
Wild Winter Action

### DYNO-MITE!

Reedy Ti  
Mods Tested

### TESTED

**Tamiya Dyna Storm**  
*Back from the past!*

**OFNA Hyper 7 RTR**  
*Well-built and raceable big buggy*

**Bolink Little Red Wagon**  
*The original wheelstander*

**Associated T3 and GT Team Built Trucks**  
*Ready to run your way*

MARCH 2002



USA \$4.99 Canada \$7.50



0 72246 47380 1

03 >

GO  
TO

**www.rccaraction.com**



## FEATURES

- 68 FIRST LOOK**  
**Tamiya Terra Crusher**  
It's the biggest.  
Is it the baddest?  
by Peter Vieira

- 120 Maxx Tire Guide**  
**Tread warfare**  
by the staff of RC Car Action

- 144 Tamiya Championship Nationals**  
**Now boarding for Japan!**  
by George M. Gonzalez

- 148 Pro-Line Endless Summer Classic**  
**A clean sweep for Losi—almost**  
by George M. Gonzalez

- 156 DYNO TEST** Reedy Modifieds Ti  
**Reedy Ti's one on**  
by Derek Buono

- 164 10 Cheap Micro RS4 Mods**  
by George M. Gonzalez

- 172 HOW TO** Snow-proof your car  
**Doin' it in the snow**  
by Derek Buono

- 192 ULTIMATE** Tamiya TA04  
**Aftermarket exotica**  
by George M. Gonzalez

## COLUMNS

- |  |  |
|--|--|
| <b>54 Pit Tips</b><br>Illustrations<br>by David Baker                                | <b>208 Body Shop</b><br>Incredible chrome<br>by Bob Hastings |
| <b>60 Troubleshooting</b><br>by George M. Gonzalez                                   | <b>224 Alternative RC</b><br>by Chris Chianelli              |
| <b>135 Racer News</b><br>by Greg Vogel<br>& Derek Buono                              | <b>241 Chris's Back Lot</b><br>by Chris Chianelli            |
| <b>180 4x4</b><br>Tuning and modifying the OFNA Monster Pirate<br>by Kevin Hetmanski |  |

## DEPARTMENTS

- 22 Starting Line**  
**26 Readers Write**  
**35 Inside Scoop**  
by Chris Chianelli  
**44 Readers' Rides**  
by Bob Hastings

## RESOURCES

- 230 RCStore.com**  
**233 Track directory**  
**240 Index of advertisers**  
**240 Customer service information**

## TRACK TESTS



**80 OFNA**  
**Hyper 7 RTR**  
Lucky 7  
by Peter Vieira



**88 Associated**  
**Team Built**  
**RC10T3 and GT**  
Ready to get ready to run  
by Peter Vieira



**100 Bolink Little**  
**Red Wagon**  
The original wheelstander  
by Bob Hastings



**110 TIME WARP**  
**Tamiya Dyna Storm**  
Still innovative,  
10 years later  
by George M. Gonzalez

**ON THE COVER:** (from top) RPM's Clawz wheel wears a Pro-Line Maxx Masher; Tamiya's Terra Crusher rocks out (photo by George M. Gonzalez).



# The Dawn of a New Era

I missed the early RC milestones; I didn't even know RC cars existed when Associated debuted its RC1 (cut me some slack; I was only two years old!), and when Tamiya's first electric "suitable-for-radio-control" kit hit the shelves in 1977, I was probably still too awed by "Star Wars" to think about anything that wasn't an X-Wing or a droid. But I was around for the great touring-car explosion, and now I feel very lucky to have a front-row seat for the biggest thing to hit RC since sedans: nitro-powered monster trucks.

I don't mean just any big-tire truck with an engine, though; the category I'm thinking of has yet to be named and is still defining itself, but the basic blueprint can be summed up simply by evoking the name of the machine that started it all: Traxxas T-Maxx. There were high-ground-clearance trucks before the Maxx; many nitro trucks came before it, and eight-shock, independent suspension was hardly new by the time Traxxas unveiled its big truck. But Traxxas was the first to combine nitro power with a long-arm independent suspension and a high-ground-clearance chassis—plus innovations such as pivot-ball articulation, third-channel reverse and an enclosed, 2-speed transmission, not to mention existing Traxxas niceties such as electric starting, .15 power and a factory-finished body.

Huge sales figures and rabid aftermarket support are indication enough of the truck's success, but the ultimate statement of the T-Maxx's impact is the acknowledgement by other manufacturers that Traxxas has discovered *the* way to build trucks in the 21st century. The Kyosho MegaForce we "First Looked" in the January 2002 issue and the Tamiya Terra Crusher that makes its debut in these pages are in the vanguard of a new era in RC monster trucking: the "maxx" era. Perhaps the term "Maxx truck" will soon become more than the name of a Traxxas product; like "Kleenex" and "Velcro," which are used interchangeably with the generic terms "facial tissue" and "hook-and-loop tape" (does anyone even say that?), "maxx truck" may come to describe any high-riding, nitro-powered, independently suspended, just-about-1/8-scale truck. Bring 'em on, I say. Any truck that even comes close to the Traxxas T-Maxx will be a lot of fun, and if someone actually outdoes the T-Maxx (and Traxxas just might do it itself), how could anyone resist driving that rig?

## IN THIS ISSUE

If you didn't catch my mention of it above (or you totally missed the front cover), this issue features the very first photos and technical details of the **Tamiya Terra Crusher**. The .18-powered monster machine looks like a serious contender for big-tire supremacy; see for yourself.

Of course, big tires are a big part of any monster truck's personality. Want proof? Check out the **T-Maxx Tire Guide**, with ratings and specs on all the large-rubber offerings for the Traxxas super-truck. There's even info on aftermarket wheels and inserts—everything you need to know about new shoes for your Maxx.

We have some hot vehicle reviews, too, with a "Back to the Future" theme. We travel back in time to 1993 with the **Tamiya Dyna Storm** re-release and then fast-forward to a new RTR, 1/8-scale buggy that is sure to be a big part of that category's future: the **OFNA Hyper 7**. From past to present, electric to nitro, we cover the RC buggy spectrum!

Peter Vieira  
Executive Editor



## EDITORIAL

Group Editor-in-Chief TOM ATWOOD  
Executive Editor PETER VIEIRA  
Senior Editors CHRIS CHIANELLI, GEORGE M. GONZALEZ, STEVE POND  
Assistant Editors DEREK BUONO, BOB HASTINGS,  
KEVIN HETMANSKI, GREG VOGEL  
Editorial Coordinator DANA DONIA

## COPY

Copy Director LYNNE SEWELL  
Senior Copyeditor MOLLY Z. O'BYRNE  
Copyeditor COREY WEBER  
Associate Copyeditor PAIGE L. HAMILTON

## ART/DESIGN

Corporate Art Director BETTY K. NERO  
Senior Art Director ALAN J. PALERMO  
Promotional Art Director LESLIE COSTA  
Associate Art Director JOANNA WINN  
Assistant Art Directors VICTORIA HOWELL, COREY W. SMITH  
Staff Photographer WALTER SIDAS  
Assistant Photographer PETER HALL

## ADVERTISING

Director of Advertising SHARON WARNER  
Assistant to Director of Advertising/Associate  
Publisher SIRI A. WHEELER  
Lead Account Executive MONA TASSONE  
Advertising Account Executives KATHRYN GEARHART, ANITA LEO  
Junior Account Executives SHERRY MORGAN, CINDI VANDEMARK  
Advertising Coordinator ANN T. WIEBER

## CIRCULATION

Circulation Director MARC LIU  
Circulation Manager CARMINA M. MCGOVERN

## MARKETING

Media Marketing Manager VANESSA LAFERRIERE

## BUSINESS DEVELOPMENT

Director, New Business RICK VANDERVOORN

## OPERATIONS

Director of Operations DAVID BOWERS  
Senior Digital Production Coordinator CHRISTINE BACHMANN-CORBIN  
Digital Production Coordinator CHRISTINA MASCHKE-MILEO  
Production Associate TOMLINSON S. WHEELER  
Production Assistant BOBBI-JO BALDWIN

## INTERNET

Director, Electronic Communications GARY KOLESAR  
Web Developers HOLLY HANSEN, LEO FICKS  
Database Coordinator DANIEL WELSH  
Web Programmer JAIME TORRES

## PUBLISHING

Group Publishers LOUIS V. DEFRANCESCO JR.,  
YVONNE M. DEFRANCESCO  
Associate Publisher SHARON WARNER

## CORPORATE

Chairman of the Board ALDO DEFRANCESCO  
President and CEO LOUIS DEFRANCESCO JR.  
Secretary and Executive Vice President YVONNE M. DEFRANCESCO  
Treasurer and Chief Financial Officer CAROL SHEPHERD



Member Audit Bureau  
of Circulations



Magazine Publishers  
of America



100 East Ridge, Ridgefield, CT 06877-4606 USA

**RCCARACTION.COM**

PRINTED IN THE USA



# TUNE IN

One day, I was watching a classic car show, and I thought it would be cool to have an RC car show. I also thought who else would be better to host the show than one of the editors of *RC Car Action* magazine? If there is a show already or there's one in the making, please notify me. I also have an RC10T3 and wish that more people would understand that even though the pro's use Losi, they are not necessarily the best or even what the pro's want to use. It does not really matter whether you run a Losi or an Associated; what really matters is the person behind the transmitter and how much fun he has.

Jeffrey Legrand  
Marrero, LA

RC TV has been floating around PBS for a few years now, and the DIY network now regularly airs "Radio Control Hobbies," hosted by our very own Chris Chianelli! Check your local listings for times; as I write, DIY airs the show every night at 8 p.m., but that could change.

And yes; what really matters in RC are the people behind the transmitters and how much fun they have!

—Pete

# RC = DRUG FREE

In the 2002 January issue, you ran a letter from a guy who quit smoking and got a couple of RC cars. I had a problem a while ago that is almost the same. Just four months ago, I was doing drugs, drinking alcohol and smoking. The difference is that I am only 15. I stopped doing those things and found I had a lot of money in my pocket. I bought *RC Car Action*, *RC Nitro* and the *Touring Car* special issue through 2001; I had to have every issue!

I just purchased a T-Maxx, and when I was driving it at my school field, my teachers and a couple of friends were really interested in its performance. I lent them a couple of magazines, and the September 2001 issue's feature about the

E-Maxx "Truck of the Year" caught their attention. They liked the Maxx truck's size but did not want to deal with the hassle of nitro power for a first RC (I bought the T-Maxx for the cool factor of nitro).

So now I've started an RC club at my school, and there will be a big race between the teachers and the students. The teachers asked me how I got into this great hobby, and I told them I used to do drugs and stopped and that I used my spare cash to buy my first RC vehicle. My friends and teachers are all proud of me being able to stop the stupid choices I made in the past.

Great magazine; keep up the good work! [email]  
Ryan K.



# SOUTHERN FRIED MINI-ZS

Yo, Pete; what's going on? I'm a big fan of the mag, and those Mini-Zs ya'll did were sweet (Ultimate Kyosho Mini-Zs, January 2002 issue). I really love that Porsche 911 ya'll built; that thing was bad to the bone. But it got me to thinking: why don't they build different kinds of Mini-Zs? Think about it; wouldn't you love to see Mini-Z drag races, or Mini-Z monster trucks?—maybe even nitro Mini-Zs. Who knows what they can come up with?! [email]

Jay Sassee  
Mayfield, KY

I'm with Jay. Any Kyosho engineers reading this? We like the sedans; we like the F1s; but we think you need to build monster trucks, rails and funny cars, too—y'all!

—Pete

# FOCUSED ON THE FUTURE

I'm 18 now, and I thank your mag for the big influence it had on me. I recently started college in a field of study that I would have never considered without *Radio Control Car Action*. I'm now studying professional photography at Dawson College. I started in RC back in 1996 when I bought a copy of *Car Action* thinking it was about real cars. I was amazed when I realized that they were RC and not "real." After that, I bought my first real RC (a Losi Double-XT), and I've been into the hobby ever since. I now have a Factory Team RC10GT and an E-Maxx (as well as my good ol' Double-XT), and I'm trying to save up for a Micro RS4.

What really first attracted me to your mag was the photography; it's so good that after reading the issues over the years, I decided that I wanted to become a photographer. I read mags about skateboarding, RC and motocross, and the photography in *Car Action* is the

best. I have to say that taking pics of RC vehicles is the hardest; trying to get a good action shot of a 1/10 truck going at 44mph is a lot harder than getting one of a 6-foot-tall guy doing a move down some stairs on a skateboard. So I applaud your photographers on their amazing work.

Well, as I said before, thanks for starting me toward a future that I know I will love. [email]  
Jeremy Glover

I gave your letter to Walter Sidas, our chief photographer, and he got all misty. I had to blot him with a lens wipe.

—Pete

# DRAW ME A PICTURE

This is my first letter to you guys, but it will not be the last. Thanks for putting together such a great magazine. I share it with everyone

# "Since he got the HPI Rush ... his grades have improved."

I am 16 years old, and I have been reading your mag for three years now. I hope to make my next car an HPI Micro RS4, but I'm writing to tell you about my friend's HPI. My friend is 17, and he worried about things way too much, even to the point where he was getting sick, losing sleep and had chest pains that felt like his chest was going to explode.

Doctors told him that the pain was caused by stress. I had to do something for my best friend, so I told him about RC. About a week later, he had an HPI Rush on its way to his house. When it got there, I helped him with getting it started and taught him everything I know about RC.

Since he got the HPI Rush, the chest pains have almost completely stopped and his grades have improved. He has also been able to sleep, and his mind has been on RC almost nonstop.

Jason Bonneville  
Claremont, NH

Great story! I'm glad you were able to help your friend. I'm hooking you both up with *RC Car Action* T-shirts. By the way, I think about RC nonstop, too.

—Pete

I come into contact with to get them into "the hobby," too.

I'm writing to suggest a new idea for your race articles: when you cover a race, I think a small diagram of the track would be nice to have for ideas on setting up track configurations in New Orleans.

Also, I have a TC3 on the way and wonder what would be a good starting point for a motor/spur/pinion combination?  
Dennis Davis  
New Orleans, LA

Great idea! I bet you could even use the drawings for track ideas outside New Orleans! Check out the TC3 manual; it lists pinion/spur combos for stock motors and a variety of mod winds.

—Pete

**WRITE TO US!** We welcome your photos, drawings, comments and suggestions. Letters should be addressed to "Letters," Air Age Inc., Radio Control Car Action, 100 East Ridge, Ridgefield, CT 06877-4606 USA. Letters may be edited for clarity and brevity, and each must include a full name and address or telephone number so that the identity of the sender can be verified. We regret that, owing to the tremendous numbers of letters we receive, we can't respond to every one.

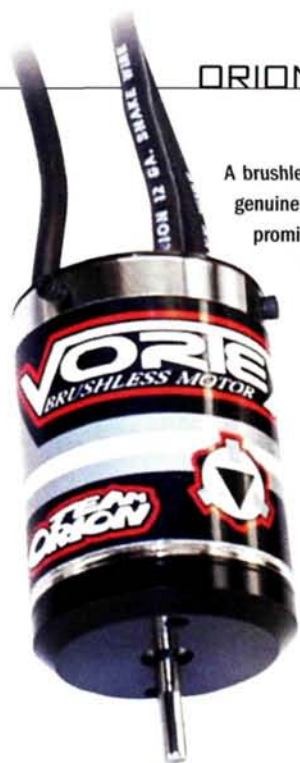
EMAIL ■ Peter Vieira: [peter@airage.com](mailto:peter@airage.com) ■ Derek Buono: [derek@airage.com](mailto:derek@airage.com) ■ Chris Chianelli: [chrisc@airage.com](mailto:chrisc@airage.com) ■ Bob Hastings: [bobh@airage.com](mailto:bobh@airage.com) ■ Kevin Hetmanski: [kevinh@airage.com](mailto:kevinh@airage.com) ■ Steve Pond: [stevep@airage.com](mailto:stevep@airage.com) ■ Greg Vogel: [gregv@airage.com](mailto:gregv@airage.com)





## ORION CAPTURED BY BRUSHLESS MOTOR VORTEX!

### ORION VORTEX



A brushless motor from Orion? Is it just a regular motor with brushes sold separately? No; the Vortex is the real thing—a genuine brushless motor that should be available right about now, according to Orion. The usual brushless benefits are promised: more power, more run time, improved efficiency, reduced maintenance costs and less electrical noise.

Since the Vortex is a "sensorless" motor, it will work with existing brushless-motor ESCs, none of which you have ever heard of—unless you're already into brushless motors. Don't worry; Orion plans to release its own ESC for the Vortex. Team Orion (714) 694-2812; [www.teamorion.com](http://www.teamorion.com)



### << BOX IT TRINITY RECEIVER BOX FOR RC10GT

Why didn't someone come up with this sooner?

Thanks to Trinity, you can equip your Associated RC10GT with a sealed radio box. Now your pit guy can stick to filling up your tank—instead of filling up your receiver. Trust me; a drop of 20 percent

nitro in the ol' RX leads to a 100 percent loss of radio control; don't risk it! The box is a direct screw-in fit for the RC10GT and features a covered servo-lead exit and an external switch mount.

Trinity (732) 635-1600; [www.teamtrinity.com](http://www.teamtrinity.com).

## BIG WHEEL RPM TITAN MAXX WHEEL

The RPM guys say, "The Titan is just about the finest example of RPM engineering ever to hit the shelves!" That sounds about right to me; these hoops are sweet! Like RPM's other killer Maxx wheel, the Clawz, the 6-spoke Titans are available in chrome, blue chrome and purple chrome. Or you can dye your own if you get RPM's dyeable-white version (I personally think the Titans would look really evil in black).

In addition to color choices, you can choose standard-offset or the "StableMaxx" offset that increases your Maxx's width by 1.2 inches. On top of all that, the Titans have a 100 percent can't-bust-'em guarantee from RPM! RPM RC Products (909) 393-0366; [www.rpmrcproducts.com](http://www.rpmrcproducts.com).



### Reedy Ramps up the Voltage SANYO HV CELLS

Sanyo's new "HV" (high voltage) 3000mAh NiMH cells have all the capacity you need for low-turn mod racing and a high-volt punch for stock competition, but the cells get even better in the capable hands of Mike Reedy and his crew. To earn "Reedy Extreme" status, the cells are fully cycled, voltage-enhanced, cycled again and finally matched by capacity and voltage. Sounds like a lot of work, but with 22 IFMAR world championships credited to Reedy power, it's worth the effort!

Reedy Modifieds; distributed by Team Associated (714) 850-9342; [www.teamassociated.com](http://www.teamassociated.com).





## Cape Not Included SUPERMAXX TITANIUM DRIVE-SHAFT KITS

SuperMaxx has a wide array of parts that will make your T-Maxx impervious to just about anything (including Kryptonite). The Constant Velocity Drive Shafts (CVDS) replace the stock plastic sliders with burly universal-joint titanium units. Extra-thick drive cups and complete installation instructions are included, and these tough axles can handle all the horsepower you can throw at them.

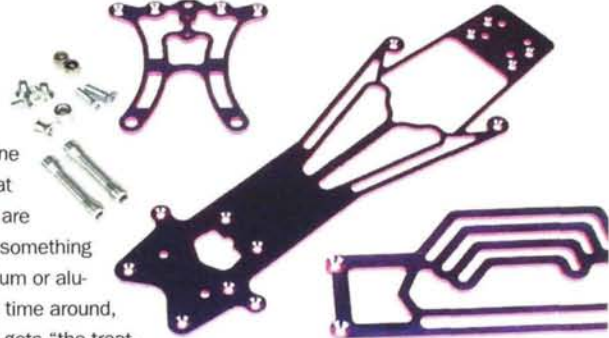
Even .21 power? SuperMaxx has you covered there, too, with titanium center shafts designed just for use with Hardcore Racing's .21 T-Maxx conversion chassis. SuperMaxx even supplies the 5mm drill bit required to modify the brake hex.

SuperMaxx; by Unlimited Engineering;  
unlimitedengineering.com.



## MAXIMUM MICRO

The machine masters at Hardcore are always whittling something new out of titanium or aluminum, and this time around, HPI's Micro RS4 gets "the treatment." There's no denying the trick factor of HRC's 6AL4V titanium chassis, upper deck and rear deck, but Hardcore's designers are very adamant that the stuff isn't just for looks. All the Micro parts are designed for high strength and durability, with tuned flex characteristics for best performance.



## HARDCORE RACING COMPONENTS MICRO RS4 GEAR

And did you check out those wheels? All are machined from 6061 aluminum billet and include a wrench. The Futura (5-spoke) and Chaos

(12-spoke) versions are shown with more to come. Check out Hardcore's website. Hardcore Racing Components (661) 294-5032; [www.racinghardcore.com](http://www.racinghardcore.com).



# Put The ZIP Back In Your Car

The World's Most Popular Sport Pak Has A New High Capacity Mate

1500 MAH  
NI-CD



RC5922  
\$18.99

For Stock & Mild, High Turn Modifieds

2500 MAH  
NI-MH



RC5900  
\$34.99

For Hot, Low Turn Modifieds & For Extended Stock Run Times

36 Meridian Road  
Edison, NJ 08820  
Ph: 732.635.1600  
Fx: 732.635.1640  
Toll Free Tech: 877.380.0040  
M-F 9-10:30 & 5-6:30 EST

AMAZING!

[www.teamtrinity.com](http://www.teamtrinity.com)



## Fast-Forward Gearbox

### ROBINSON RACING PRODUCTS FORWARD-ONLY MAXX GEARBOX KIT



Rob Robinson's latest piece of CNC wizardry is this compact T-Maxx gearbox, which includes RRP's soon-to-be-released 8585 forward-only gear kit. As the name implies, the kit eliminates reverse for locked-in forward action with reduced rotating mass. The kit can be installed in the standard T-Maxx gearbox, but for the ultimate setup, go with the aluminum box. Machined for forward-only use, it eliminates the unused linkage hole and "dead space" left in the standard gearbox when it's converted for forward-only operation. Robinson Racing Products (209) 966-2465; [www.robinsonracing.com](http://www.robinsonracing.com).

## HEAVY-DUTY HOOPS

### SPEEDMIND HEAVY-DUTY RACING WHEELS

SpeedMind's new wheels have an aggressive look, and they're all about performance, thanks to a graphite-like plastic blend that is very rigid—just the thing for sticky, low-profile racing rubber. In addition to all-business black, the wheels can be had in white, gray and fluorescent yellow and in a variety of styles. Shown from left to right: Star, Turbine, RS and 8-Mesh. SpeedMind; distributed by Magma International (905) 886-1808; [www.magmarc.com](http://www.magmarc.com).



## TIRE BALANCER

Balances:  
1/12 On-Road  
1/10th Oval  
1/10th Touring  
1/10th Buggy  
1/10th Truck

Ball Bearings  
Red Anodized

CMF1200, \$45.00



*Reduce vibration in  
your drivetrain for a  
smoother running  
better handling car!*





**TOMY  
BIT  
CHAR-G** **Now  
THAT'S  
Micro!**

### Mini? Micro? Try itty-bitty!

The cleverly designed, badly named, "Bit Char-G" is available in Mazda RX-7, Honda S-2000, Nissan Skyline and Toyota Celica versions. The tiny car is only 60mm long, and it is powered by a pencil-eraser-size motor that is typically used for the vibrating function of a pocket pager! The included radio has toggle controls for non-proportional forward/reverse and left/right control and a neat whip antenna that winds up into the transmitter case for storage.

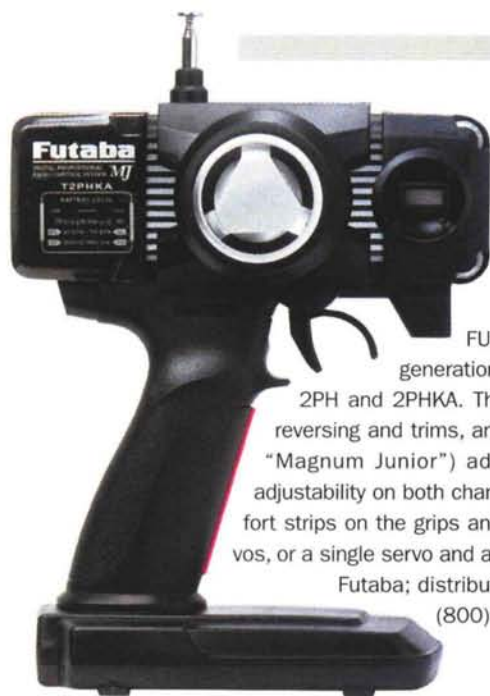
The transmitter also serves as the charger for the car. Just snap the car onto the side of the radio, and the car's onboard "battery" (it's actually a capacitor) fully charges in 45 seconds for a 2-minute run. Pretty cool! The Bit Char-G is available online from [www.marine-monsters.com](http://www.marine-monsters.com), an online store for aquarium enthusiasts. They also sell robotic jellyfish!



## Oval Sneakers RACETECH RACE- TREAD CAPPED TIRES

**R**aceTech offers its RaceTread tires in full-race models as well as "spec" versions. The competition tire is available in a soft (purple) and a hard (white) compound, complete with gray rims. Three staggers are available for fine-tuning. Black rims distinguish RaceTech's single-compound, no-stagger "spec" tires, available individually or in sets of four.

RaceTech; distributed by Bolink (770) 963-0252; [www.bolink.com](http://www.bolink.com).



## Magnum PH Futaba 2PH & 2PHKA radio systems

FUTABA IS READY to release its fourth-generation Magnum-series AM radios, designated 2PH and 2PHKA. The 2PH is the basic model, with servo-reversing and trims, and that's about it. The 2PHKA MJ (as in "Magnum Junior") adds dual-rate steering and endpoint adjustability on both channels. Both radios have red rubber comfort strips on the grips and are offered with a pair of S3003 servos, or a single servo and a Futaba MC230 reversing ESC.

Futaba; distributed exclusively by Great Planes  
(800) 682-8948; [www.futaba-rc.com](http://www.futaba-rc.com).



## ON YOUR MARK, GET SET, GLOW! DURATRAX GLOW PLUGS

DuraTrax has expanded its line of value-priced RC gear to include three glow-plug models: Silver Sport, Carbon Speed and Gold Racing. The color-code theme makes it easy to tell the plugs apart, and each one has been designed for a specific use. According to DuraTrax, Silver Sport plugs are "hot" and best suited to low-nitro applications; the Carbon Speed plugs are "medium hot" for general racing and sport use; and the Gold Racing plugs are "cold" for competitive racing with higher-percentage-nitro fuel mixtures. DuraTrax; distributed by Great Planes (800) 682-8948; [www.duratrax.com](http://www.duratrax.com).

## PROTOFORM SPEED 8 LMP

Protoform has pretty much owned 1/12-scale racing with its long-lived Nissan P35 body, and it probably could have just kept on sucking lexan over the same mold and done just fine. But that's not how Protoform does things! The all-new Speed 8 shell brings the fresh-from-Le Mans lines of the Speed 8 Prototype to RC with a close-fitting design that just might trim your lap times. "Regular" and "lightweight" versions will be offered and should be available right about ... now. Protoform, distributed by Pro-Line (909) 849-9781; [pro-lineracing.com](http://pro-lineracing.com). ■





# readers rides

## YOUR BEST BUILDS

### CHRIS COLEMAN, LEXINGTON, KY KYOSHO TF-2

Here's a classy-looking Lexus body atop a Kyosho TF-2 chassis. The touring car has Pro-Line Sedan Hawg tires and chrome Gumby rims. Considering that the car has a 7-cell-powered, 12x2 motor, it obviously can back up its good looks with performance, too.



### NICK RICHARDSON, MADISON, AL TRAXXAS RUSTLER

Here is Nick's tribute to his favorite NASCAR driver: Tony Stewart. The electric truck is equipped with a 17-turn Trinity motor and a Pro-Line Rustler body decorated with Slix graphics.



### KEVIN FISHER, GREENSBORO, NC TAMIYA F103

This F1 duo is all set for spec racing. They both feature Reedy Firehawk motors, Novak Super Rooster ESCs, Futaba radio gear and full ball bearings. The blue racer has a Raynard 97D Tamiya body equipped with Ram head and taillights, and the red car is a Tamiya Sauber C-12 body.

### GARY PERINE, DEPOSIT, NY TRAXXAS T-MAXX

This T-Maxx is well equipped for climbing boulders; it's clad with Pro-Line Maxx Mashers, RPM Clawz wheels, arms, shock towers and braces, MIP CVDs, Associated shocks and Megatech's .16 engine. We were amazed to learn that this was Gary's first attempt at airbrushing. His shark attack T-Maxx mural was traced from a book and then transferred over to masking on the body.



## WIN A ONE-YEAR SUBSCRIPTION TO RADIO CONTROL CAR ACTION MAGAZINE!

Send a sharp, uncluttered, well-exposed color photo of your vehicle (no Polaroids) and a brief description to "Readers' Rides," *RC Car Action*, 100 East Ridge, Ridgefield, CT 06877-4606 USA. If we publish your photo, you'll receive a free, one-year subscription to *RC Car Action* and will be eligible to win the "Reader's Ride of the Year Contest." Write your address and phone number on your letter and on the back of every photo you send. Good luck!



# JOHN TOLLIVER, GREENFIELD, IN TRAXXAS T-MAXX AND DURATRAX NITRO QUAKE

Looks as if John wanted to spark up the handling of his monster trucks and created his own dually setup; he and a co-worker made the adapters. The red T-Maxx features Pro-Line wheels, tires and a '50s panel truck body plus a Megatech .16 engine. The Nitro Quake wears Pro-Line treads, wheels and a good-looking green and yellow Suburban body.



# CHRIS STRUMOLO, STATEN ISLAND, NY TAMIYA M-03

For serious racing, Chris pulls out his TC3, but nothing beats a relaxing drive behind the wheel of his Billy Bass. This Formula Fish is mounted on a Tamiya M-03 chassis equipped with a 540 motor, RD Logic tires and OFNA rims.



## Readers' Ride of the Month

I took one look at Chris's Tamiya conversion, choked on my coffee and knew immediately that we had our first "Readers' Ride of the Month" winner. From that high-downforce rear fin to the antenna shroud complete with fishing-pole eyelets, this car really tips the scales. —Bob

# JIM BURNETTE, MURFREESBORO, TN ASSOCIATED TC3 TEAM EDITION

Jim is proud to report that he finally pulled down a main-event win with this touring car at his local HobbyTown track. His racer has an HPI Stratus shell, Futaba radio gear, a Paradox stock motor and Pro-Line wheels and tires. The body was painted using Parma's Tiger Rip design and 10 shades of Fskolor.



# TOM LANGSDORF, EDWARDSVILLE, IL TAMIYA BLACKFOOT

Once a relic in someone's attic, this Tamiya Blackfoot has a new lease on life—thanks to Tom's restoration. With the exception of the Pro-Line tires and a set of bearings, the truck is stock. The F-150 has been completely redone in military colors, including an olive-drab treatment for the wheels and all the molded components. ■







#### CHROME EZ-START

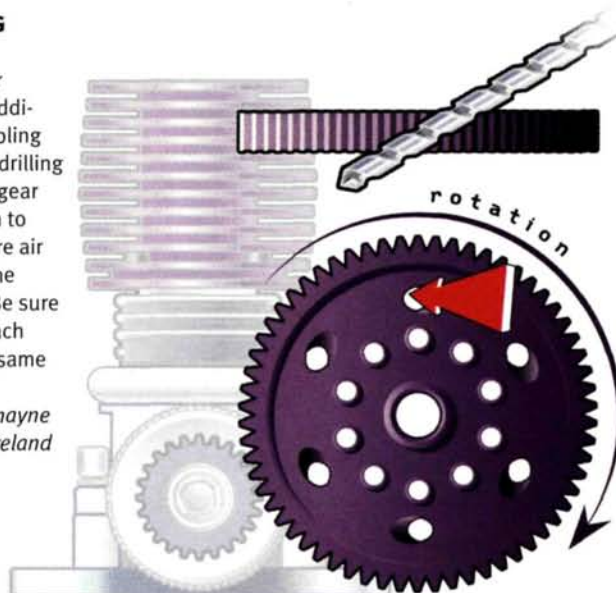
A simple way to dress up your Traxxas starter motor is to add a little shine to it. A minute or so of polishing with a Dremel tool and a buffing wheel will have the aluminum motor can of your EZ-Start looking like chrome.

David Thewlis  
Brattleboro, VT

#### COOLING SPUR

Give your T-Maxx additional cooling by cross-drilling the spur gear as shown to draw more air toward the engine. Be sure to drill each hole the same size.

Brian Ronayne  
Dublin, Ireland



#### RECYCLED INSERTS

Before you throw out your worn tires, be sure to carefully cut the sidewall and then remove the insert. This small recycling step can add up to a significant savings over time.

Benjamin Squire  
Westbury, NY

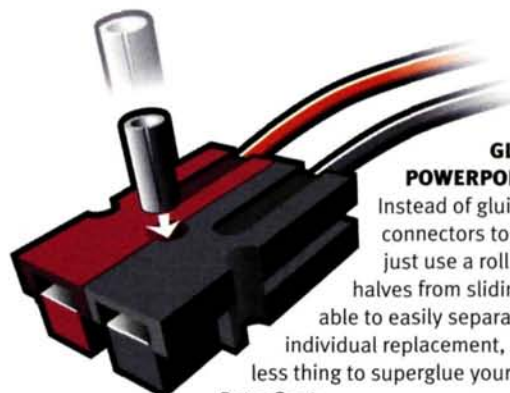
**TOP TIP**



#### GLUE-FREE POWERPOLES

Instead of gluing powerpole connectors together with CA, just use a roll pin to prevent the halves from sliding apart. You'll be able to easily separate the halves for individual replacement, and it's just one less thing to superglue your fingers to.

Peter Sout  
Cranston, RI



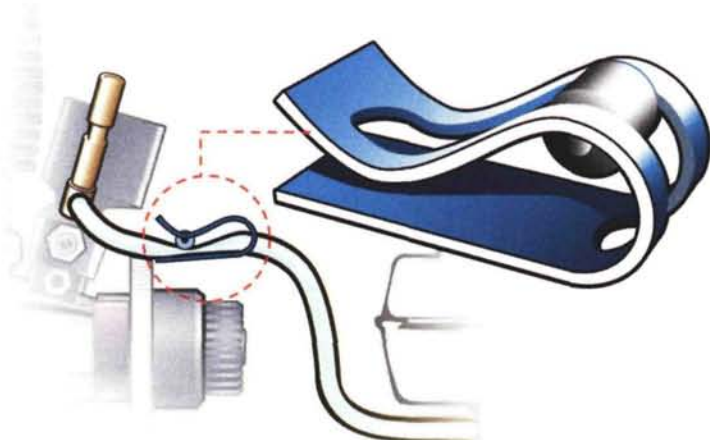
#### BETTER PAINT MIXING

Improperly mixed paint may leave streaks on your RC body, and it can also adhere poorly. Add a few large, clean diff balls to your paint jars so the paint will mix more thoroughly when you shake it up.

Harry Gee  
Queensland, Australia







#### NITRO ENGINE FUEL CUTOFF

Starving the fuel flow to the carburetor is the best way to shut off your nitro engine, but this can be difficult to do sometimes. At a medical-supply store, pick up a few clamps that are designed to squeeze the line flow on hospital IV bags. Slip one over your carb line, and you'll be able to stop your engine in a pinch.

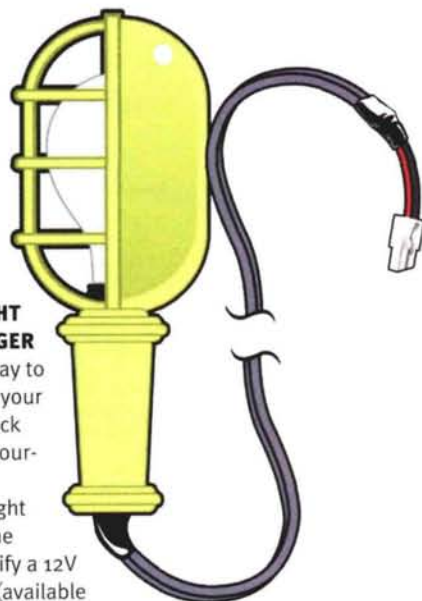
Donald Shoey  
New Milford, CT



#### AUTHENTIC FINISHING

Sometimes close isn't good enough if you're after a truly scale-looking body color. Auto parts stores sell spray paint in the original manufacturers' colors that works fine on RC bodies. Remember to use these lacquer-based paints in a well-ventilated area.

Brett Coultry  
Plaistow, NH



#### DROPLIGHT DISCHARGER

Here's a way to discharge your battery pack and give yourself some working light at the same time. Modify a 12V droplight (available from an auto parts store)

to accept one of your battery connectors. Designed for extreme use, these lights hold up well in the pits.  
Dennis Ladwig  
Oconto, WI



#### SIMPLE SAFETY KIT

Small cuts can become infected if not properly treated, and that is often difficult to do while you're at the track. Keep a small, zip-type plastic storage bag in your toolbox to hold Band-Aids, antiseptic ointment and alcohol wipes—just in case.

Jeremy Whitmire  
Chattanooga, TN



#### FUEL SEAL LANYARD

The red fuel-cap seal is an important component to maintaining fresh fuel. Keep the seal handy and dirt-free by attaching a string to the upper part of the lid and then around the neck of the fuel bottle.

Steve Slakes  
Portland, OR

"Pit Tips" are submitted by readers and are screened for functionality, feasibility and safety but are not tested by Radio Control Car Action. Radio Control Car Action and the submitting authors are not responsible for personal injury or damage to models or tools resulting from readers' use of "Pit Tips."

**WIN AN OFNA YO-YO AND RC CAR ACTION SUBSCRIPTION!** Radio Control Car Action will give a 6-month subscription (or extend an existing subscription) and an OFNA Yo-Yo to the author of each idea used in "Pit Tips." The "Top Tip" winners will also be considered for "Tip of the Year" to be selected at the end of each year. The "Tip of the Year" winner will receive an OFNA OB4 International RTR Electric car kit. Send a rough sketch to Bob Hastings c/o Radio Control Car Action, 100 East Ridge, Ridgefield, CT 06877-4606 USA. BE SURE YOUR NAME AND ADDRESS ARE CLEARLY PRINTED ON EACH SKETCH, PHOTO AND NOTE YOU SUBMIT. We're unable to publish many good tips because we don't have the sender's name and address. Please note: because of the number of ideas we receive, we can neither acknowledge every one nor return unused material.



YOU'VE GOT PROBLEMS? WE'VE GOT FIXES.

**KEEP BLOWING UP BEARINGS**

I recently installed a set of ball bearings on the wheels of my Traxxas Rustler. After running the truck for a few days, I noticed that one of the front wheels was wobbly. I took the wheel off to inspect the ball bearing and found that it had come apart and lost all of the balls. I figured that I must have gotten a bad bearing, so I installed another and continued to run the truck. After blowing up a second bearing, I returned to the hobby shop where I bought them and was told that I was using the wrong kind of grease. I applied the recommended

grease to the new set of bearings, but the problem has continued. I'm baffled, and so are the people at the hobby shop. If you have any suggestions, I would really appreciate it. Thanks for a great mag!

*Devon Rempel  
St. Adolphe, Manitoba,  
Canada*



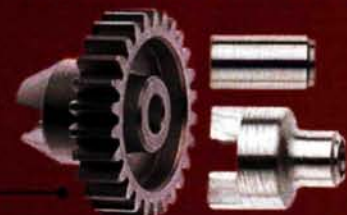
The weight of big truck tires can be brutal on small bearings.

Unfortunately, those tiny, 5x8mm bearings you've installed in the front wheels and rear axle carriers are just not up to the task of supporting big racing-truck tires. Most Rustler and Stampede owners have to live with the stock bushings because the optional bearings don't seem to last. RPM offers front and rear bearing carriers (part nos. 80372 [front] and 80382 [rear]) for the Traxxas Rustler, Stampede and Bandit that use the larger, 5x11mm bearings. Installing the RPM bearing carriers and larger bearings will solve your problems once and for all. The 5x11 bearings are sold separately; you'll need eight bearings to complete the conversion. Installing the parts is easy: just remove the front and rear axle carriers from your truck, and install the RPM pieces and the larger bearings in place of the stock parts. By the way, I really liked the sketch of your truck.

Left: the small, stock, Rustler bearing. Right: the large 5x11 bearing used with the RPM carrier upgrade kit. The larger bearing can support big wheels.

**REAL PERFORMANCE PRODUCTS!****Traxxas Lightened Spur And Double-Disc™ Slipper Kits**

RRP's NEW line of Lightened Spur and Double-Disc Slipper Kits for Traxxas Nitro and T/E-Maxx trucks are designed to improve performance and increase reliability. This combo incorporates a machined steel or Super-Tough plastic spur, a Vented Aluminum Clutch-Plate/Gear Adaptor (small or large), 2 Slipper Pads and 2 Plates to deliver the adjustability you need and the increased performance that you demand. **Complete Slipper Kits** are available in the following sizes: RRP 8166 Slipper Kit with 66T Super-Tough plastic spur (Stock Size) for E-Maxx RRP 8172 Slipper Kit with 72T Super-Tough plastic spur for Traxxas Nitro RRP 8465 Slipper Kit with 65T Steel Spur for Traxxas Nitro RRP 8472 Slipper Kit with 72T Steel Spur (Stock Size) for T-Maxx. Spurs, Clutch-Plate/Gear Adaptor and Slipper Pads also sold separately.

**T-Maxx Forward ONLY Hardened Gear Kit**

This kit contains a 26T hardened aluminum output gear, a forward drive hub adaptor and spacer. RRP 8525

**Nitro and T/E-Maxx Accessory Spurs**

A wide range of spurs fit our Double-Disc Slipper Kits. Choose from machined Super-Tough plastic spurs in 66, 68, 70, 72 and 76T sizes, RRP 82XX, or CNC machined steel spurs available in 65, 72 and 76T sizes, RRP 83XX. Small Clutch Plate/Gear Adaptor fits 65 thru 70T spurs. Large Clutch Plate/Gear Adaptor fits 72 thru 76T spurs.

**Traxxas Nitro Hardened Steel Clutchbells**

CNC Machined from solid steel these bells are built to last. They take the 5x11 bearing (NOT included). Available in 19T, RRP 8119, 20T RRP 8120, 21T RRP 8121 and 23T RRP 8123.

**T-Maxx Hardened Forward Primary Gear**

Machined from solid aluminum and hard coated. A direct replacement for the stock gear. RRP 8528

**48P Absolute Series Pinions**

Super hard, lightened and cut with unmatched precision. Great with any spur, but with an Absolute spur, even on-off noise is gone! Available in 48P in 16T thru 28T sizes. RRP 1416 - RRP 1428.

**48P / 64P SuperLite Aluminum Pinions**

They're lightened, hard coated and precision cut. Available in 48P in 16T thru 28T, and 64P in 24T thru 38T. RRP 30XX (48P) and RRP 31XX (64P). Only \$5.25

**48P Hard Nickel Plated Steel Pinions**

These precision cut gears have an extremely hard coating that makes them really last. Available in 12T thru 35T. RRP 1012 - RRP 1035

**Make No Compromises.**

www.robinsonracing.com



## CAN'T GET UP TO SPEED

I have a Yokomo MR-4TC that I've been racing for several months. The car is fast, and it handles great, but I can't seem to run with the fast guys, no matter how hard or how often I practice. I found out that the fast guys are all using one-way front diffs and one-way pulley shafts. I decided to order these parts for my car to see whether the one-ways would help shave off a few tenths of a second from my lap times. Well, my lap times got worse, and I can't even drive the car without spinning out in the corners any more. The car has way too much steering. I adjusted the dual-rate steering on my M8 transmitter, which helped a bit, but the car is still way too loose for my driving style. I decided to go back to the dual-diff setup; it suits me better, even though it seems I'll never get into the A-main. Do you have any suggestions to help me lower my lap times? [email]

Brian Solbay



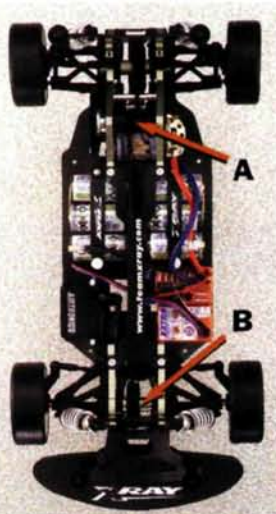
Adding a one-way pulley can shave seconds off your lap times.

This is more of a general question than a troubleshooting matter, but I'll go ahead and answer your letter since I have experience with one-way-equipped sedans. Installing a one-way front diff and a one-way center pulley will transform your Yoke into a completely different touring car. This means that you'll have to adjust your driving style to take advantage of the benefits offered by one-way drive systems. I suggest that you begin by installing the one-way center pulley only; leave the one-way front diff out of the car until you've mastered driving your vehicle with the one-way pulley installed on the layshaft.

The one thing that you need to remember when you drive a one-way-equipped 4WD sedan is that all the braking takes place in the rear tires, just as on a 2WD vehicle. In a nutshell, you have to stop relying on the brakes so much. This means you'll need to drive very smoothly until you get used to the way the car "feels" with the one-way installed. The one-way center pulley provides more

on-power steering, and that means you'll be able to carry more speed entering the corners, but you'll have to stay on the throttle all the way through the turn to keep the rear end from losing traction and spinning out. The moment you let off the throttle, it's all over.

If you find that you still need to use the brakes to slow the car down on certain sections of the track, try dialing out the braking force by adjusting your radio's throttle endpoint adjustment (EPA) to a lower percentage on the brake side. This should lessen the braking force so that when you apply the brake, the car slows down slightly but doesn't lock up the rear tires, which causes the car to swap ends. Exploiting your radio's anti-lock brake system (ABS) can also provide smoother braking, which may also help your situation. Installing the front one-way diff in addition to the one-way center pulley will make the car steer even more aggressively and initiate a slide when entering sharp corners. I suggest that you use the front one-way diff only under extremely high-bite conditions. I hope these suggestions help you.



One-way pulleys are available for both the center layshaft (A) and the front diff (B).

### NEW T-Maxx Steel Diff Gear Set



T-Maxx / E-Maxx differential gear set, includes: 1 beveled pinion gear, 1 beveled spur gear, 4 re-usable stainless steel phillips head screws, 1 tube Associated Black Grease, and a shim kit for spider gears with 10 .003" shims. 2 sets needed per truck. RRP 8590

### NEW T-Maxx Aluminum High Performance Brake Kit



New, lightweight aluminum high performance brake kit, includes bigger, more aggressive brake pads and steel backing plates. One piece vented rotor minimizes side-to-side wobble. RRP 8560

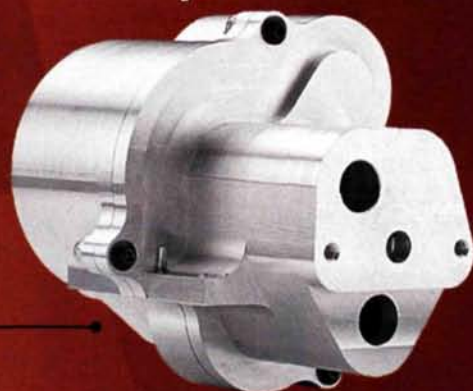
[www.robinsonracing.com](http://www.robinsonracing.com)

### T-Maxx Vented Flywheels



Aluminum vented flywheels move air over clutch bell, improving performance and cooling. RRP 8551 Blue, RRP 8550 Natural Silver

### Forward ONLY Racing Gearbox For T-Maxx



Precision CNC machined from aircraft grade billet aluminum this Forward ONLY Racing Gearbox will give your T-Maxx a serious competitive edge. RRP 8595

## ROBINSON RACING PRODUCTS

4968 Meadow View Drive · Mariposa, CA 95338 · Voice 209.966.2465 · Fax 209.966.5937

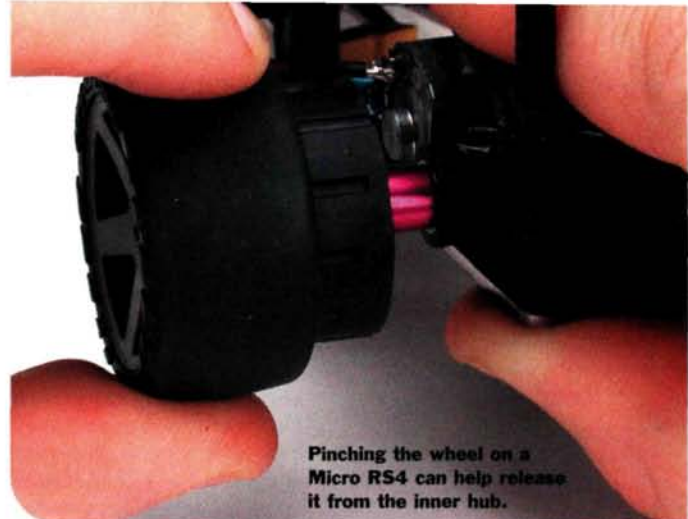


## STICKY MICRO RIMS

I thought I'd write the troubleshooting guru to see whether you can give me some advice on how to remove the rims from my HPI Micro RS4. The rims slide easily onto the adjustable-width wheel hubs but are a pain to remove. I actually ripped the rear axle off my car while trying to remove the rim from the wheel hub. I bought some Hardcore aluminum rims because they slap right on without the wheel hubs. Unfortunately, the aluminum rims are just too cool to thrash, so I use them only when I display my model. Needless to say, I've gone back to the stock rims for thrashing. Do you have any advice on how to make it easier to remove the stock wheels?

Michael Brae

Oklahoma City, OK



Pinching the wheel on a Micro RS4 can help release it from the inner hub.



A dab of grease on the inner hub will allow the wheel to slide off easier the next time it needs to be removed.

Yeah, I agree; those little Micro wheels can be tough to remove, but I'm still trying to figure out how you ripped the rear axle from the car. Here are a couple of things that you might want to try. The Micro RS4 wheels are slightly tapered, but the wheel hubs are flat. That's why the wheel slides on easily but becomes progressively tighter as you press the wheel completely over the hub. If the wheel wasn't tapered, it would slide off the hub when you drive the car. With this in mind, try pinching the outside section of the wheel when you remove it from the wheel hub. This makes removing the wheel much easier. If that doesn't do it for you, smear a little diff lube or some other heavy grease on the wheel hub before you slide the wheel on. The grease will make removing the rim much easier, but the rim will not become loose when you drive the car. I hope one of these tips helps you out.

### RS4 Nitro Aluminum Brake Kit



Lightweight aluminum, variable braking system. RRP 1575

### RS4 Nitro Vented Flywheel



Aluminum vented flywheels move air over clutch bell, improving performance and cooling.  
RRP 1570  
RRP 1571 Pull Start

### Stealth Sedan Spurs



These precision machined spur gears are super quiet. They're available in 48P in 60T thru 96T sizes, and fit any HPI electric car or truck.  
RRP 1860 thru  
RRP 1896.

### RS4 Nitro Small Aluminum Drive Pulleys



Hardened drive pulleys, sold in pairs.  
RRP 1538

### RS4 Top Shaft Pulley



One piece pulley and shaft are precision cut and hard anodized. Purple anodized side flanges are pressed on. RRP 1527

### RS4 / Pro / Pro2 / Nitro Aluminum Outdrives



40% lighter than stock ball diff outdrives. RRP 1585

### RS4 Complete Ball Diff Units



Hardened steel outdrives, ground and polished thrust washers, 2 5x8mm ball bearings, and aluminum pulley.  
RRP 1590 Electric  
RRP 1595 Nitro

### RS4 Diff Pulleys



Precision machined, hard anodized aluminum diff pulleys.  
RRP 1539 nitro sedans  
RRP 1528 electric sedans

### RS4 Nitro Lightened Gear Adapter



This lightened gear adapter includes a machined nylon spur that's tougher than the stock gear and will last longer.  
RRP 1535

[www.robinsonracing.com](http://www.robinsonracing.com)

RS4 Nitro 32 Pitch Conversion Kit is available. RRP 1536



## UNDERGEARED RALLY CAR

Help! I own an HPI Super Nitro Rally that's equipped with an O.S. CV 15 engine. My problem is that the car isn't any faster than it was with the stock HPI engine. Also, when I let off the throttle, the car slows down dramatically as if it had drag brakes. I adjusted the brake linkage so that the car coasts when in neutral, but that didn't work. In an attempt to gain more speed, I even leaned out the engine so much that it started to run extremely hot, but that didn't help either. The car accelerates much faster than it did with the stock engine, but the top speed just isn't there. I was thinking about buying the optional 2-speed, but HPI recommends it for on-road use only. I mostly drive off-road, so that's out of the question. Besides, I have the optional slipper clutch installed and do not want to run the vehicle without it. Is there anything I can do to increase my rally car's top speed?

Mario Sintella  
Yonkers, NY



The stock 13-tooth clutch bell (on the engine) next to the optional 15-tooth bell. More speed, baby!

It sounds as if your Super Nitro Rally is undergeared, Mario. The Super Nitro Rally's gear ratio is just about right for the stock Nitro Star engine, but the more powerful O.S. engine could easily pull a taller gear ratio. The kit comes equipped with a 13-tooth clutch bell; installing a 14-tooth clutch bell should give you the top speed you're looking for. If you need still more top speed after installing the 14-tooth clutch bell, then install a 15-tooth unit. Your car should still have plenty of off-the-line-punch, even with the higher gear ratio. HPI offers a complete selection of clutch bells in various sizes. You shouldn't have any problem finding these clutch bells at your local hobby shop. ■



Your Super Nitro Rally doesn't seem fast enough? Try a bigger clutch bell.

## TOOLBOX

The OFNA Combo screwdriver is a handy tool to have if you own a nitro vehicle. The screwdriver has a standard flathead screwdriver tip that's perfect for carburetor tuning. Hidden inside the handle, you'll find a Phillips-head screwdriver and a handy piston stop. The piston stop threads into the glow-plug hole and prevents the piston from moving up and down when you're trying to tighten or loosen the clutch nut. The OFNA combo screwdriver is three tools in one, and it won't take up a lot of space in your toolbox.

OFNA Combo screwdriver—item no. 10310, \$9.

OFNA Racing,  
(949) 586-2910;  
www.ofna.com.



### RC10-GT Steel Combo



Precision machined from solid steel, then hardened, this 65T spur and 15T bell combo will last and last. The extra-hardened clutch bell fits ALL Associated and MIP shoes. RRP 2365

www.robinsonracing.com

### Hardened Steel Idler Gear



Cut from solid steel stock, this gear is lightened and hardened for super quiet precision and extra long life. Jammin' tranny grease is included. RRP 2213 RC10-GT, RRP 7505 Ultima GP-R

### Associated Titanium Stealth Top Shaft



CNC Machined from solid titanium, this super hard, super light top shaft will fit any Stealth transmission. RRP 1512.

### Hardened Diff Gear



Hard anodized, precision CNC machined aluminum diff gear. RRP 1513 RC10-GT RRP 7500 Ultima GP/EP-R

### Blue Lightened Slipper Kit



The rear plate is hard anodized and the front plate is color treated. The front plate holds the pad forcing it to slip on the rear plate. When pad wears, just flip it over for a new surface. RRP 1515 Associated, RRP 7515 Kyosho Ultima

### Aluminum Outdrives



40% lighter than stock ball diff outdrives. RRP 1475 TC3, RRP 1502 B3/T3

### TC3 Ultra 48 Pitch Spurs



Precision machined from heat-resistant plastic, these spurs mesh flawlessly with our pinions. Available in even numbers from 70T thru 80T, RRP 1670 RRP 1680.



ROBINSON RACING PRODUCTS

4968 Meadow View Drive · Mariposa, CA 95338 · Voice 209.966.2465 · Fax 209.966.5937









PHOTOS BY GEORGE M. GONZALEZ

# TERRA CR





IT'S THE BIGGEST.  
IS IT THE BADDEST?

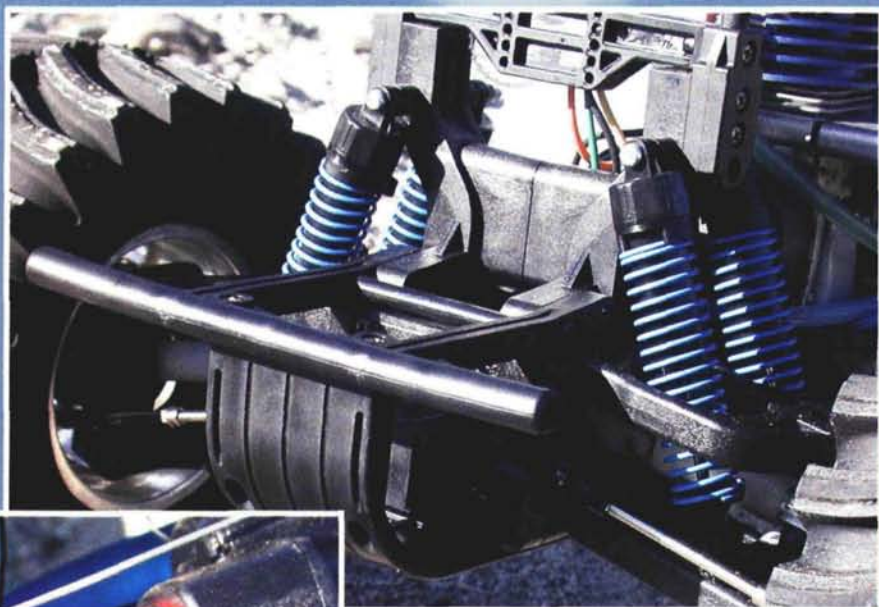
IF THERE'S ONE COMPANY that defines electric monster-trucking, it's Tamiya. From the original Clod Buster to the wild TXT-1, Tamiya has built a strong reputation among the batteries-and-big-tires set. Now it has the nitro big-truck category in its sights, and the truck that's rolling around with a bull's-eye on its bed is the Traxxas T-Maxx. Tamiya is taking aim with an all-new design called the Terra Crusher, and it's following a bigger-is-better strategy by building in the same gee-whiz features as the T-Maxx has (electric starting, reverse, t2-speed) into a truck that is 20 percent larger and equipped with a larger-displacement engine. OK; so it's bigger. Is it better?

TAMIYA  
**RUSHER**

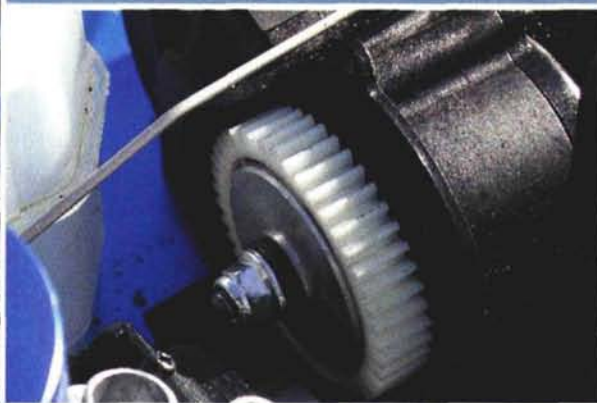


**<< HERE IT IS:** the Terra Crusher. Check out those tires! Much of the "20% larger" comes from its giant rubber and stretched wheelbase.

**✓ B SHOCKS.** The oil-filled dampers are the heavy-duty units found on Tamiya's other big truck, the TXT-1. This rear view shows the adjustable toe-in links (which could probably easily be adapted for 4-wheel steering) and gives a good sense of just how huge the Crusher's wheels and tires are.



**✓ SLIPPER CLUTCH.** The Terra Crusher's spur gear is surprisingly small, and that indicates that the bulk of the gear reduction occurs in the transmission. Judging by the short stack of Belleville washers that serves as a spring, the slipper is designed to be run "locked"; it's meant to slip only as a safety device to protect the gears when they're subjected to the most extreme abuse.



**"SMART" THROTTLE >> LINKAGE.** A cam-and-lever system similar to Kyosho's QRC design allows a single throttle/brake servo to give the Crusher full proportional control of forward, reverse and brake functions. There's no switch to flip; push up-trigger on the transmitter, and the Terra Crusher will brake, stop and shift into reverse with proportional throttle control.

**^ FRAT GEARBOX AND DUAL-ROTOR DISC BRAKE.** Tamiya's Forward and Reverse Automatic Transmission, or "FRAT" (good thing Tamiya didn't call it a Forward And Reverse Transmission) does not operate like other reversing designs that slide a drive disc between two output gears to select a "forward" or "reverse" gear train. Instead, the transmission shifts via a clutch for smoother engagement with less gear strain. The FRAT gearbox also incorporates a substantial-looking dual-rotor disc brake that appears to have plenty of clamping force, and a centrifugally shifted, clutch-type 2-speed.







#### ONBOARD ELECTRIC STARTER >>

Well, mostly onboard. The power for the electric starter comes from a hand-held unit that holds a stick pack inside. To interface with the Crusher, the starter is just plugged directly into a port on the truck—without wires. Once it has been connected, starting the engine is a button push away. This photo also shows the Terra Crusher's 2-channel AdSpec AM transmitter.



**TAMIYA .18 ENGINE.** A bigger truck needs a bigger engine, so Tamiya went with a .18 instead of the .15 standard established by the T-Maxx and Kyosho MegaForce. The single-needle engine features ABC construction, a machined conrod and a tall heat-sink head. A cast manifold and a tuned pipe keep down the heat and help the engine breathe easily. The aftermarket will no doubt be quick to release a .21 conversion!



We've added the Terra Crusher to the chart that ran last month in the Kyosho MegaForce First Look. Dare to compare!

	TAMIYA TERRA CRUSHER	KYOSHO MEGAFORCE	TRAXXAS T-MAXX
Length overall	22.06 in. (560mm)	19 in. (480mm)	18.9 in. (479mm)
Width	17.33 in. (440mm)	14.5 in. (368mm)	14.8 in. (375mm)
Wheelbase	14.18 in. (360mm)	12.25 in. (311mm)	12 in. (305mm)
Max. ground clearance	4.80 in. (122mm)	3.75 in. (95mm)	4.29 in. (109mm)
Weight (dry)	197.68 oz. (5,600g)	149.76 oz. (4,245g)	137.6 oz. (3,900g)
Displacement	.18	.15	.15
Starting system	Electric	Electric	Electric
Bearings	Ball bearings	Ball bearings	Ball bearings
Exhaust	Aluminum tuned pipe	Cast tuned pipe	Plastic tuned pipe
Shocks	Plastic-body, oil-filled	Plastic-body, oil-filled	Plastic-body, oil-filled
Tire width	3.94 in. (100mm)	3.12 in. (79mm)	3.34 in. (85mm)
Tire height	6.93 in. (176mm)	6.5 in. (165mm)	5.85 in. (149mm)
Wheel dimensions	2.99x3.43 in. (76x87mm)	3x3.56 in. (76x85mm)	2.22x3.41 in. (56x86mm)
Arm length*	4.13 in. (105mm)	2.68 in. (68mm)	5.2 in. (132mm)
Hinge-pin spread**	1.57 in. (40mm)	1.3 in. (33mm)	1.32 in. (34mm)
Suspension travel	3.54 in. (90mm)	2.75 in. (70mm)	3.76 in. (96mm)
Street price, RTR	\$410 (approx.)	\$440	\$420

\*Measured from center of inboard hinge pin to center of outboard hinge pin/pivot ball. \*\*Distance between inboard suspension hinge pins.

**<< ENCLOSED ELECTRONICS.** The chassis has a shovel-nose look thanks to the roomy compartment that houses the receiver, battery, throttle/brake/reverse linkage and servos. The mount for the tuned pipe is also incorporated.



#### > ALUMINUM DRIVE AXLES AND HINGE-PIN

**SUSPENSION.** Instead of using all-plastic axles that can "wind up" under stress, Tamiya uses aluminum shafts that are much more twist-resistant. Beefy C-carriers with upper and lower hinge pins interface with the suspension arms for up-and-down travel, and separate steering arms handle left-to-right steering. The design should be exceptionally rigid, but camber settings are fixed. The axles, as well as the Crusher's other rotating parts, turn on shielded ball bearings.

**<< SHAFT DRIVE.** Steel drive shafts with universal joints link the front and rear gearboxes to the center transmission. Ring and pinion gears turn the diffs, which house all-new, heavy-duty versions of Tamiya's already bomb-proof 3-gear bevel internals. Note the unusual half-plastic/half-metal chassis; the blue-anodized rear half is made of 2.5mm duraluminum.





## GEORGE DRIVES IT!

The G-Man infiltrated Tamiya's factory photo session to take the shots you see on these pages, and he even grabbed the transmitter (he must be a good wrestler). Here's what he discovered ...

### It's fast!

I was impressed with the Terra Crusher's acceleration and speed. The truck's low internal gearing and auto-shifting 2-speed make the best of the available power. The Terra Crusher sent rooster-tails of dirt and rocks 5 feet behind it whenever I gassed the throttle. It also climbed steep hills with relative impunity and muscled its way through every obstacle in its path, thanks to its huge tires, high ground clearance and pillow-soft suspension.

### Full 2-channel forward, reverse and brake control

The reverse mechanism works just like a forward/brake/reverse ESC. The first half of the up-trigger travel is proportional brake; the second half engages reverse with proportional throttle control. Shifting from forward to reverse is very smooth, and you don't have to wait a few seconds to let the tranny return to neutral before you make the shift. While I'm talking tranny, I should also note that the 2-speed shifts seamlessly. You can hardly tell when it pops into second; you just see it continue to build speed.

### Mondo stopping power

Two giant disc brakes bring the truck to a quick halt regardless of speed. Be careful, though; the disc-brake

system is so effective it can send the truck into an endo if you get on the brakes too hard. Additionally, the deadband area between braking and reverse is very narrow, so careful finger control is required, or you may extend the throttle trigger too far and engage reverse, which will also send the truck end over end.

### Jumps like a stadium truck

The Terra Crusher is designed to take flight. The truck jumps level and lands on all fours every single time. The gyro effect of the big tires when the truck is in the air allows quick midair adjustments with throttle and brake control. Landing from big jumps didn't pose a problem thanks to the truck's supple suspension and big tires that also aid in the suspension department.

### Try to flip it—I dare you

No matter how hard I tried, I could not get the truck to tip over on the dirt. The truck handles just as well on asphalt. During cornering, the truck lifts its outside wheel slightly, but the suspension squares off immediately and soaks up the G-forces before you get into trouble.

clicktrip   
[RCCARACTION.COM](http://RCCARACTION.COM)  
 DOWNLOAD VIDEO OF THE  
 TERRA CRUSHER IN  
 ACTION!



### Super-supple suspension

With 8 shocks, long suspension arms and giant tires, this monster can jump or climb over just about anything. The prototype did seem a little under-damped and tended to bottom out when landing from big jumps, but the settings aren't out of the ballpark and Tamiya still has plenty of time to change the factory setup. Of course, you can always change the springs and shock fluid yourself, too. ■

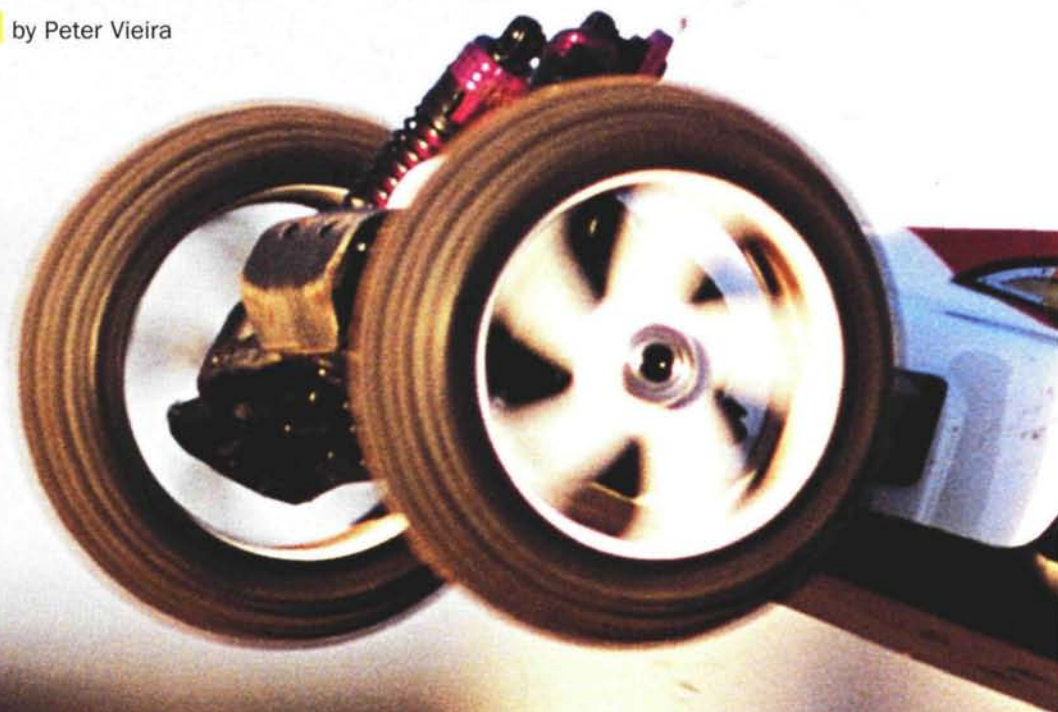
## SOURCE GUIDE

TAMIYA AMERICA INC. (800) 826-4922;  
[www.tamiyausa.com](http://www.tamiyausa.com)









# OFNA Hyper 7 RTR

I'VE SEEN PLENTY OF WELL-EQUIPPED, WELL-BUILT RTRS, but I had to say "Wow" when I cracked open the OFNA Hyper 7 RTR's box. Sure, it's good-looking with all its purple-anodized stuff, but "purple" doesn't necessarily mean "performance." What really pushed up the wow-factor were the details—such as a hard-anodized chassis, a neatly plumbed fuel system with installed filter and ample splashguard, O-ring-sealed diffs and a powerful Hyper engine. Plus, a truly good-looking, factory-painted and trimmed body is included, and that makes the Hyper 7 one of the best-equipped RTR nitro chassis out there—if not the best. Can't wait to drive one? Me neither!







Lucky 7

PHOTOS BY WALTER SIDAS & PETER HALL





OFNA

For a ready-to-run, the Hyper 7 looks very race-ready. It pops out of the box just like this.

Below: thick, capped arms and substantial steering carriers give the Hyper 7 a stiff suspension. Note the removable axle shroud on the carrier.

Below: clip-on spacers are included for preload adjustments. Out of the box, the Hyper 7 has a racy arms-level setting, but you might want to double-check the camber settings.

## DATA CENTER

**VEHICLE TYPE** 1/8-scale 4WD .21-powered RTR buggy

**BEST BUYER** All nitro-power enthusiasts, particularly those who are thinking of racing

**KIT RATINGS** (poor, satisfactory, good, very good, excellent)

**Instructions** Very good

**Parts fit/finish** Very good

**Durability** Very good

**Overall performance** Very good

Above: the Hyper Turbo engine is a keeper. Power and reliability—there's a combo you don't see often enough. Right: "Ho Bao" you keep your receiver clean by installing it in a sealed case? Good idea.

## SPECIFICATIONS

**MANUFACTURER** OFNA

**MODEL** Hyper 7 RTR

**SCALE** 1/8

**STREET PRICE** \$550

### DIMENSIONS

**Wheelbase** 12.48 in. (317mm)

**Width** 11.97 in. (304mm)

### WEIGHT

**Total, as tested** 122.1 oz. (3,462g)

### CHASSIS

**Type** Stamped plate

**Material** Hard-anodized 3mm aluminum

### DRIVE TRAIN

**Type** 4WD shaft-driven, three-diff

**Primary** Clutch bell/spur gear

**Drive shafts (F/R)** CVA/dogbones

**Differentials** 4-gear beveled, O-ring sealed

**Bearing type** Metal-shielded ball bearings

### SUSPENSION

**Type** Upper/lower arm with C-carrier and cast steering arms (front); lower arm with turnbuckle camber link (rear)

**Shocks** Purple-anodized aluminum, fluid-damped

### WHEELS

**Type** One-piece plastic, directional 5-spoke

### TIRES

**Type** "Equal-sign" tread, soft compound with foam insert

A 3.5MM ALUMINUM CHASSIS ISN'T UNEXPECTED ON AN 1/8-SCALE BUGGY, BUT A HARD-ANODIZED, 3.5MM CHASSIS IS SOMETHING SPECIAL.



## KIT FEATURES

**CHASSIS.** A 3.5mm aluminum chassis isn't unexpected on an 1/8-scale buggy, but a hard-anodized, 3.5mm chassis is something special. The hard coating extends the chassis' life by preventing wear caused by bottoming out and improves overall strength. The slight radiusing of the chassis' sides also increases stiffness, and 3 degrees of kick-up is stamped into the chassis. Wide pads for the suspension's droop screws are incorporated, as well, and they appear to be very strong.

Purple anodizing adds style to the chassis' aluminum top-side pieces. The radio tray is constructed of the usual 2mm plate, but heavy-duty 3mm stuff is used for the center diff brace and steering bellcrank post/front gearbox brace—all the better to support the steel rod that joins the front brace to the chassis. An identical rod brace joins the rear gearbox to the chassis.

Additional chassis details include a radio-tray-mounted transponder holder, molded stone guards, an enclosed radio box and two external battery holders—one for a 4-cell battery holder (factory-installed) and another for a 5-cell rechargeable flat pack.

**DRIVE TRAIN.** Naturally, the Hyper 7 is a triple-diff car. Plastic diff housings are an expected (and acceptable) cost-saving measure, but the diffs have the good stuff where it counts. The bevel-gear internals are O-ring sealed so they can be filled with silicone fluid, and four spider gears are used instead of two. Despite the diffs' silicone compatibility, the diffs are grease-filled from the factory (probably to simplify production; it's easier to deal with grease than with silicone goo).

The center diff has the same components as the front and rear units and is encircled by a steel spur gear that will undoubtedly outlive any plastic gear. Padded steel calipers grab vented steel rotors on each end of the diff, and plastic guides keep the rotors from walking on the outdrives when the brakes are not applied. Dogbones join the differentials and turn

the rear wheels; CVA universals with 8mm axles take care of business up front, and metal-shielded ball bearings do the spinning throughout.

**SUSPENSION AND STEERING.** When we tested the Hyper 7 Pro back in the October 2001 issue, we found its suspension parts to be more flexible than we'd like in a "pro" car. Whatever tweaks OFNA made to the plastic formula since then also benefit the RTR Hyper, as its upper and lower arms are noticeably stiffer. Design-wise, the suspension is a mix of established 1/8-scale tech and insightful details. Axle shrouds built into the molded steering hub carriers are a nice touch, but the shrouds limit axle access—that is, they would if the shrouds weren't easily removable bolt-ons. The carriers are molded with 17 degrees of caster, and optional 19- and 22-degree versions are available. Cast steering knuckles are standard buggy fare, and capped front suspension arms hold the parts rigid. The rear arms are not capped but instead hold their hub carriers in steel heim joints. Well, sort of; true heim joints incorporate pivot balls, whereas the Hyper 7's joints just have open bores in the steel. Turnbuckle camber links attached to large 7.8mm balls complete the rear suspension, while steel rods threaded into the upper arms make front camber adjustments possible with a little disassembly; turnbuckles would have been nice.

Aluminum-body shocks with bottom-loaded seals and soft silicone boots are used all around. The shocks are built with 2-hole pistons and silicone bladders, and they use clip-on spacers to adjust the preload of the kit's black springs, which feel as if their rates are in the same ballpark as other competitive buggies'.

In the steering department, the Hyper 7 gets an adjustable servo-saver built into the dual-bellcrank system, and a 3mm aluminum steering plate with two Ackerman positions pulls turnbuckle-equipped tie rods.

**BODY, WHEELS AND TIRES.** The Hyper 7 is equipped with directional 5-spoke wheels, foam inserts and soft tires with an "equal-sign" pattern. The rear wing is securely attached with broad countersunk washers and machine screws that thread into locknuts fitted into sockets in the molded wing mount.

The body is a basic 1/8-scale buggy, but the factory paint job really brings it to life. It isn't a wild look, but the bright red over white with silver accents gives a nice, graphic look that keys in well with the included decals.

**ENGINE AND ACCESSORIES.** Fittingly, the Hyper 7 is equipped with a Hyper .21 pull-start engine. It's a "Turbo" model, which means there's an impeller ("turbopan") between the crankshaft and the backplate. It's difficult to say exactly how it is meant to increase performance—especially



## INCLUDED ELECTRONICS & ACCESSORIES

### Airtronics Blazer 27MHz transmitter and receiver

Airtronics' most inexpensive radio set, the Blazer is long on reliability and affordability but short on features. Like other radios in its price range, the Blazer offers only the most essential setting options: servo trims and servo-reversing. It's a perfectly good system for an entry-level electric car, but a high-powered nitro machine such as the Hyper 7 would be better served by the Blazer Sport, which includes endpoint adjustments, or better yet, by Airtronics' CX2P FM system.

### Airtronics 94102 steering and throttle servos

These are Airtronics' budget

servos, and each is good for about 40 oz.-in. of torque. That's fine for pulling the carb open, but it isn't enough for hard stopping, and it's nowhere near the strength required to steer the Hyper 7 with the aggressiveness it's capable of. It isn't a question of the servos' quality; it's a question of application. The 94102s are reliable and sturdy, but they just aren't meant for 1/8-scale buggy use.

### OFNA dry-cell glow starter

The Hyper 7's included glow starter may look like a home for Oscar the Grouch, but as inexpensive glow starters go, it's a nice unit. It's designed to accept a standard, C-type alkaline

battery or a sub-C rechargeable. The glow starter uses a spring-loaded clamping sleeve to hold the glow plug, and its long shaft reaches the glow plug with finger-room to spare.

### MegaTech High Velocity Racing Fuel

OFNA takes the term "ready to run" seriously and even includes fuel with the Hyper 7. MegaTech supplies the blue juice, which is 25 percent nitro, and uses Syntol oil blend, which "meets or exceeds all engine manufacturers' requirements." The pint bottle features a flip-up pouring spout that eliminates the need for a separate fuel bottle.

## YOU'LL NEED

- 12 AA batteries (or 8 AA batteries and a 5-cell rechargeable receiver pack)
- One alkaline or rechargeable "C" or sub-C battery

## FACTORY OPTIONS\*

- Front hub carrier, 19°—Item no. 87303
- Front hub carrier, 22°—87301
- Upper arm for 22° carrier—87302
- Torsen diff (F&R)—87325
- Torsen diff (center)—87326

## ALUMINUM PARTS

- Chassis braces (F/R)—87309/87310
- Rear uprights—87308
- Radio tray and wing/post standoffs—87311

## GRAPHITE PARTS

- Shock towers (F/R)—87318/87319
- Radio tray—87320
- Transponder mount—87321
- Steering bellcrank brace—87323
- Center diff plate—8732

\*Partial listing; additional option parts available



## Futaba S9450 Digital steering servo

After testing the Hyper 7 with its included steering servo, I upgraded to this 111 oz.-in. competition model from Futaba. It has the power to yank big buggy wheels, and digital operation gives the S9450 superior centering. I like the Futaba servo, but any servo with 90 oz.-in. of torque (or more) will greatly enhance the Hyper 7's steering capability.

## MDP SuperPack 1000mAh 5-cell receiver pack

I dropped 4 alkalines into the Hyper 7's included battery holder to show the factory setup, but I switched to a rechargeable flat pack for testing. The Hyper 7 includes battery hold-downs for both setups.

when neither the manual nor the box art mention the system or its claimed benefits.

The Hyper engine's other features are less cryptic. In keeping with the "ABC" acronym, the engine has an aluminum piston that cycles through a brass sleeve that's chrome-plated. The connecting rod is machined and bushed, and a slide-valve, 3-needle composite carburetor is standard. Finned mounts secure the engine to a sub-plate that is then attached to the chassis. It's a convenient setup; you can remove the engine and sub-plate together for maintenance and then reinstall the assembly without having to reset the mesh.

The engine breathes through a generic foam-element filter with a silicone elbow and exhausts through a spring-mounted manifold and silicone-coupled aluminum tuned pipe.

The Hyper 7's fuel-delivery system shows a lot of thought. The 125cc tank is not uncommon, but the included fuel filter is a welcome and good-looking touch, thanks to its purple-anodized housing. The filter is zip-tied to a mount that is screwed to a large splash plate that keeps fuel away from the radio tray and center diff/brake assembly, and all the components are neatly plumbed with thick-wall silicone tubing.

# PERFORMANCE

In the spirit of testing the Hyper 7 exactly as equipped, I spent the first couple of tankfuls (after break-in) playing with the standard servos in place. Despite a lack of wheel-pointing power, the 94102 did an acceptable job of steering the big buggy as long as I was off the throttle; when the power was on, the servo just didn't have the strength to make the Hyper 7 hold a line, and the front wheels were easily deflected. To its credit, the servo

didn't break; I had thought for sure it would blow a gear before I finished.

As for braking, I was pleasantly surprised to find the Hyper 7 capable of safe and reasonably short stops. The brakes don't have enough grab for the late braking required on a racetrack, but they have sufficient stopping power to keep the Hyper 7 out of trouble.

Though the standard steering servo proved adequate for play, I knew the Hyper 7 could exceed play-buggy performance expectations with a stronger servo, so I swapped out the Airtronics 94102 for a high-powered

Futaba S9450 digital unit. With three times the torque of the standard servo, the Hyper 7 steered like a whole different buggy. It dove into corners with impressive aggressiveness and drifted predictably when pushed past the limits of traction. Over bumpy terrain, the Hyper 7 did a good job of maintaining its composure, and it held its line well. Jumping was a blast; just line up, hit the gas, roll off the throttle in the air for a perfect nose-down landing and then ride it out. I thought the Hyper 7's damping felt a little heavy on the bench, but on the track, the suspension felt just right.

In fact, you could probably go straight to the racetrack without touching the suspension—but you might want to work on the diffs. You don't need to touch them for play running, but racers will want to clean out the grease and fill them with silicone fluid to prevent "unloading" (try OFNA's Diff-Lock fluid). In stock trim, the Hyper 7 will dump power all too quickly to the wheels with the least traction. This causes the buggy to lose some speed over bumpy stretches where the wheels aren't always in full contact with terra firma and in tight corners that unweight the inside wheels.

The chassis and suspension work well, but you won't have any fun if the engine's a quitter. I'm happy to report that the Hyper powerplant is everything you could want in a first .21 engine; it starts very easily and tolerates not-perfect carb-needle settings. But when they are set properly, look out; this engine rips. It might not have quite the power of a full-race Italian engine or the hottest O.S., but for any type of play scenario and all but the most competitive local race scenes, the Hyper engine is not short on power.

## THE VERDICT

This is an RTR? The Hyper 7's willing engine, capable suspension and rugged, hard-coated chassis are a ticket to the racetrack. Though of high quality for an entry-level system, the Airtronics Blazer radio system and standard servos will bring you back to ready-to-run reality. However, they work surprisingly well for the off-road play that many Hyper 7 RTRs will see despite the buggy's racing potential. And OFNA certainly earns points for completeness, with a great-looking, factory-finished body, included fuel, a glow starter that's a keeper and glued tires with inserts. In all, the Hyper 7 is a competitive package in the RTR segment, and it could easily be a competitive buggy on the racetrack with radio and servo upgrades. ■

## DISLIKES

- Entry-level radio and servos aren't best for big-buggy action.



THE HYPER ENGINE IS NOT SHORT ON POWER.

## LIKES

- Capable, adjustable suspension.
- O-ring-sealed diffs can be filled with silicone.
- Full-color manual.
- Powerful, reliable Hyper engine.

## SOURCE GUIDE

**AIRTRONICS** (714) 978-1895; [www.airtronics.net](http://www.airtronics.net).  
**FUTABA** Distributed exclusively by Hobbico/Great Planes, (800) 637-7660; [www.futaba-rc.com](http://www.futaba-rc.com).  
**MDP INC.** (949) 830-0304; [www.nitrohouse.com](http://www.nitrohouse.com).  
**MEGATECH INTL.** (201) 662-8500, ext. 115; [www.megatech.com](http://www.megatech.com).  
**OFNA RACING** (949) 586-2910; [www.ofna.com](http://www.ofna.com).

## THE COMPETITION

MODEL	CHASSIS	BALL BEARINGS	DRIVE AXLES	SPUR GEAR	RADIO SYSTEM	STREET PRICE*	REVIEWED
DuraTrax Axis RTR	3mm aluminum	Shielded	Universal/dogbone	Plastic	Hitec Lynx	\$499	3/00
Kyosho Inferno MP-7.5	3mm aluminum	Shielded	Dogbones	Plastic	Not included	\$490	2/02
GS Racing Storm RTR	3mm aluminum	Shielded	Universal/dogbone	Steel	JR XR3	\$560	11/01
OFNA Hyper 7 RTR	3.5mm aluminum	Shielded	Universal/dogbone	Steel	Airtronics Blazer	\$550	3/02

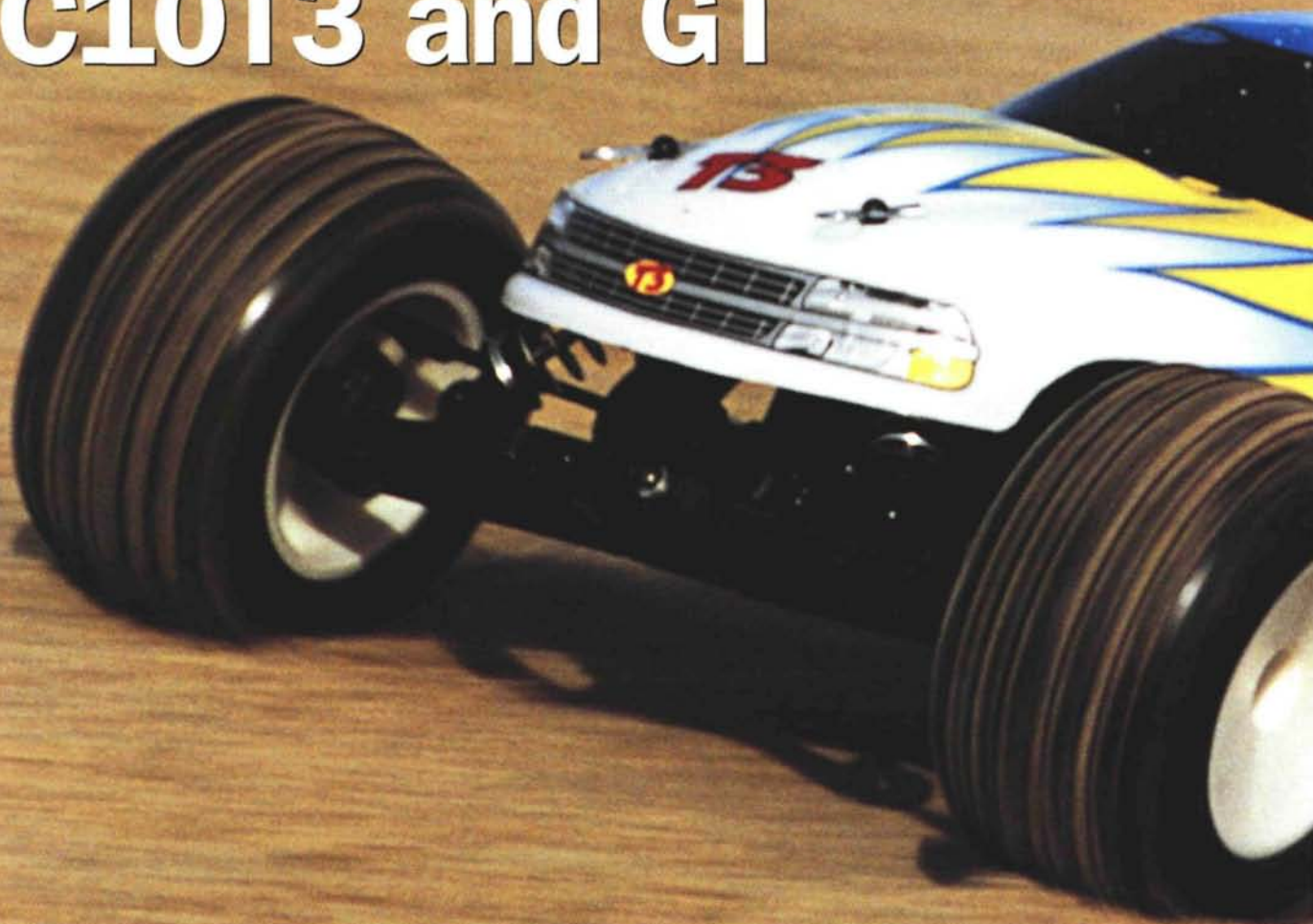
\*Price varies with dealer







# Associated Team Built RC10T3 and GT



**DO YOU LIKE TO DRIVE MORE THAN YOU LIKE TO BUILD AND PAINT**, but you don't like having your electronics chosen for you by the manufacturer of a ready-to-run? Associated has your machine, especially if your tastes lean toward racing trucks. The time-tested RC10T3 electric truck and all-time most popular nitro truck, the RC10GT, are now available as fully assembled, made-in-the-USA "Team Built" versions. The Team Built concept combines the best features of RTRs (such as complete chassis assembly and a factory-finished body) with the freedom to install the electronics and engine or motor of your choice. With a few relatively minor exceptions, the full-bearing Team Built trucks duplicate the specs of Associated's "Team" kits, and that makes the Team Builds well-equipped, high-performance trucks. See for yourself.

PHOTOS BY WALTER SIDAS





Ready to get  
**ready to run**



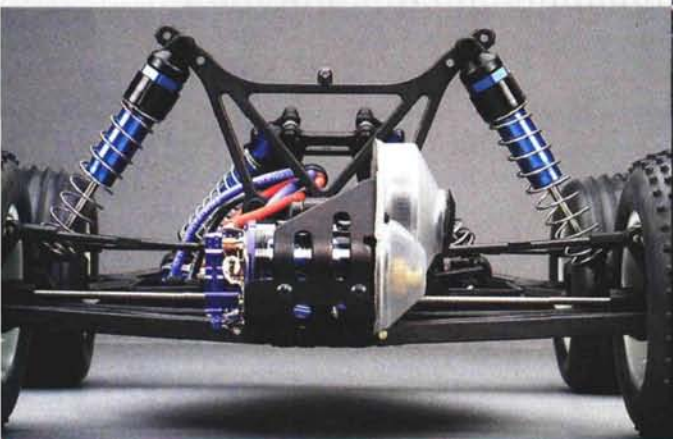
# track test

ASSOCIATED TEAM BUILT RC10T3 AND GT

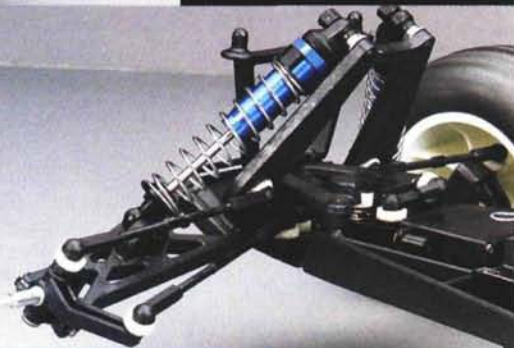


The T3's classic profile is familiar to racers everywhere. With the exception of the LRP and Futaba radio gear and Reedy motor, the T3 arrives exactly as you see it here.

Steel turnbuckles and blue-anodized shocks are standard Team Built features. Dogbone drive axles spin the rear wheels.



Left: ride height is easily set with clip-on preload spacers. Out of the box, the T3 sits "axles level" with the weight of a battery and motor on board. Right: Associated doesn't miss a trick; there are washers under the steering ball ends for proper geometry, and foam donuts keep dirt out of the cups.



## DATA CENTER

**VEHICLE TYPES** Factory-assembled and painted 2WD nitro and electric racing trucks

**BEST BUYER** Performance-minded enthusiasts who aren't into building

**KIT RATINGS** (poor, satisfactory, good, very good, excellent)  
**Instructions** Excellent  
**Parts fit and finish** Very good  
**Durability** Very good  
**Overall performance** Very good

## SPECIFICATIONS

**MANUFACTURER** Team Associated

**MODEL** Team Built RC10T3,

RC10GT

**SCALE** 1/10

**STREET PRICE**

\$175 (T3); \$219 (GT)

### DIMENSIONS

**Wheelbase** T3—11.4 in. (289mm);

GT—10.5 in. (267mm)

**Width** T3—12.4 in. (316mm);

GT—12.6 in. (321mm)

### WEIGHT

**Total, as tested** T3—60.5 oz.

(1,715g); GT—64 oz. (1,814g)

### CHASSIS

**Type** (T3) Composite plastic semi-tub; (GT) stamped 2mm aluminum plate

### DRIVE TRAIN

**Type** Enclosed gearbox

**Drive shafts** Dogbones

**Differential** Ball

**Bearing type** Rubber-sealed ball bearings

### SUSPENSION

**Type** Lower H-arm with steel-turnbuckle upper link

**Shocks** Blue-anodized aluminum-body, fluid damped

### WHEELS

**Type** Pro-Line 2.2 one-piece dish

### TIRES

Pro-Line Edge fronts, Stubbie T rears

THE MOLDED CHASSIS HAS ALL THE FEATURES WE'VE COME TO EXPECT IN AN ELECTRIC TRUCK.



## KIT FEATURES

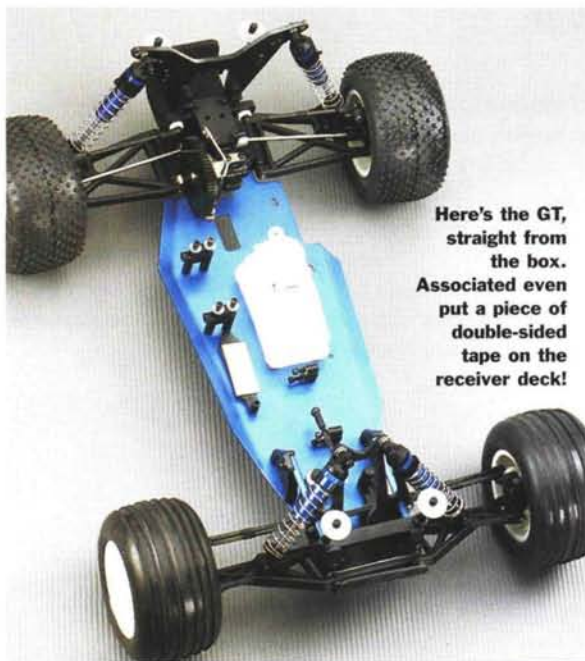
**CHASSIS.** Once upon a time, Associated's electric and nitro trucks and the RC10 series buggies all sported aluminum chassis. After the release of the plastic-chassis B2 buggy, a plastic-chassis truck was sure to follow—enter the T3. The molded chassis has all the features we've come to expect in an electric truck, including upswept sides for cornering clearance and a built-in battery tray with hold-down brace. Separate aluminum nose- and tail plates enable the front and rear suspensions to be removed as assembled units, and a svelte upper brace stiffens the forward chassis but leaves the steering servo exposed for easy access.

On the nitro side, the latest GT still relies on aluminum for its chassis but has the flat plate configuration that debuted with the RTR GT. The 2mm aluminum chassis has radiused sides for extra stiffening and is one piece—no separate nose- or tail plates. Plastic standoffs hold aluminum "nose tubes" that support the front suspension bulkhead, and the GT's thick aluminum engine mounts also serve as chassis braces for the truck's rear.

**DRIVE TRAIN.** Both the T3 and GT use 3-gear transmissions with bottom-mounted ball differentials, which are still some of the smoothest in RC. Single-pad slipper clutches are also standard for both trucks, as are complete rubber-sealed bearing sets. One feature not found on the T3 is a brake, since braking is handled electronically. To stop the GT, a fiber brake disc is keyed to a hex mount between the slipper clutch and tranny case, where it is squeezed by a single-pad steel caliper.

Dogbones connect the differential to the drive axles, and this is where the Team Builts differ from the Team kit trucks, which feature MIP CVDs. CVDs are nicer, but their absence won't stop you from putting your GT or T3 into the A-main if you have the skills. But the dogbones will wear more quickly and could be lost if your truck pops a rear camber link.

**SUSPENSION AND STEERING.** The T3 gets molded front and rear shock towers, while the GT sports thick fiberglass pieces. Both machines have steel-turnbuckle camber links all around and lower H-arms with plate hinge-pin braces and independent rear arm mounts. Dual bellcranks with



Here's the GT, straight from the box. Associated even put a piece of double-sided tape on the receiver deck!



The GT includes everything you need to install the engine of your choice. Check the box before you buy; you need to select a "pull-start" or "non-pull-start" kit to be sure you get the right stuff for your engine.

integral, adjustable servo-savers are standard, and you'll find combined kingpin/ball studs on the T3, while the GT uses more conventional C-carriers (and shorter steering arms, oddly enough).

The suspension is the site for big difference number two between the Team kits and Team Built trucks. The Team kits use hard-anodized, Teflon-coated shock bodies, while the Team Builts wear more attractive but less high-tech blue-anodized, uncoated dampers. The parts are otherwise identical and function just as well as Associated's fancy Team shocks for 99 percent of the action most of us will give a T3 or GT, but the hard-anodized, Teflon-coated shocks will keep their smoothness longer than the blue shocks. That means you get long-lasting shocks instead of really, really long-lasting shocks. Don't worry about it.

## BUILDING & SETUP TIPS

Associated includes complete from-the-ground-up manuals with the Team Built kits. The T3 can be ready to run in about 20 minutes, but it will take more time to install the engine and properly set the throttle and brake linkages in the GT. Here are some tips.

**CRANK CUTTING.** This is the only no-turning-back, don't-screw-it-up step in the GT finishing process. Associated has you covered with comprehensive instructions for all brands of engines. Still nervous? Buy an engine with a pre-cut crank, such as a Dynamite or Associated's own .15 engine. If you do your own crank cutting, just carefully follow the instructions, and use a fresh, fiber cutoff wheel; it isn't good to heat the crank by doing the job with a worn-out wheel.

**INSTALL THE ENGINE FIRST.** You won't have access to the topside engine-mounting screws after the manifold is installed. Bolt the engine into its mount first, then install the manifold.

**USE THE FILTER OIL.** It's tempting to skip lubing the foam pre-filter, but you should use the stuff (especially when Associated is kind enough to include it). The goo will trap dirt and dust that might otherwise contaminate the paper filter underneath, and the dust and dirt are easily released at cleaning time when the goo parts company with the filter.

**THREAD-LOCK.** Yes, we will mention this in every nitro kit review. A dab on each of the GT's engine-mounting screws will keep those screws on your truck and out of the weeds. You can also hit the spur-gear screws, the jam nut on the carb-linkage ball end and the jam nuts on the upper shock-mounting screws.

### YOU'LL NEED

#### For Team Built T3

- Transmitter and receiver
- Steering servo
- ESC
- 6-cell battery
- Charger
- Motor

#### For Team Built GT

- Transmitter and receiver
- Steering and throttle servos
- Glow starter
- Engine
- Receiver battery

### FACTORY OPTIONS

#### Factory Team blue-anodized parts:

- T3 Motor plate—item no.9245B
- T3 Rear chassis plate—9241B
- T3 Nose plate—9210B
- T3/GT Servo-saver tube—9156B
- Inline front axles for T3—7221B; for GT—6220B
- GT Tuned pipe—7742
- GT Brake adapter—7561B

#### Factory Team graphite parts:

- T3 Transmission brace—9381
- T3 Battery strap—7331
- T3 Rear shock tower—7349
- T3 Front arms—7204; rear—7339
- T3 Chassis—7309
- GT Front shock tower—7216; rear—7656

#### Titanium Factory Team parts

- Turnbuckle/hinge-pin combo for GT—1520; for T3—1521



## Futaba Magnum Junior FM radio set

I used Mag Juniors in both trucks and went with the FM version for maximum glitch resistance. The Junior is a red-hot radio; it has dual-rate steering and adjustable endpoints on both channels, and it includes Futaba's excellent



R123 FM mini-receiver. Wrap it all in a comfy case for one of the best FM radio values going.

Additional items used to complete the Team Built trucks:

## RC10T3

**Futaba S93054** coreless steering servo

**LRP Quantum Competition ESC**

**MVP** rebuildable stock motor

**Reedy Extreme Sanyo 3000HV** cells



I chose an O.S. CV-R .15 to power the GT. Too much power is just enough!

## R10GT

**O.S. Engines .15 CV-R** bump-start engine

**Futaba S93054** coreless steering and throttle servos

**Trinity Nitro Metal Hydride** receiver battery

**Trinity Monster** Horsepower fuel

**ENGINE AND ACCESSORIES.** An engine isn't included with the GT, but you do get engine mounts (specific for pull-start or non-pull-start engines, so pick your GT Team Built accordingly), a tuned pipe, manifold, two-shoe clutch, throttle linkages and other doodads required to install the engine of your choice.

**BODY, WHEELS AND TIRES.** Both trucks wear painted bodies with Billy Easton's signature design. You can go with

Billy's trademark red/yellow/white version or choose the blue/yellow/white look. Decals are provided for logos and details as well as blackout windows.

Pro-Line supplies the tires and dish wheels, which Associated glues together for you (but without foam inserts—bummer). The front tires are Pro-Line's proven bevel-rib Edge design, and the rear are Stubbie Ts—a good all-around multi-surface combo.

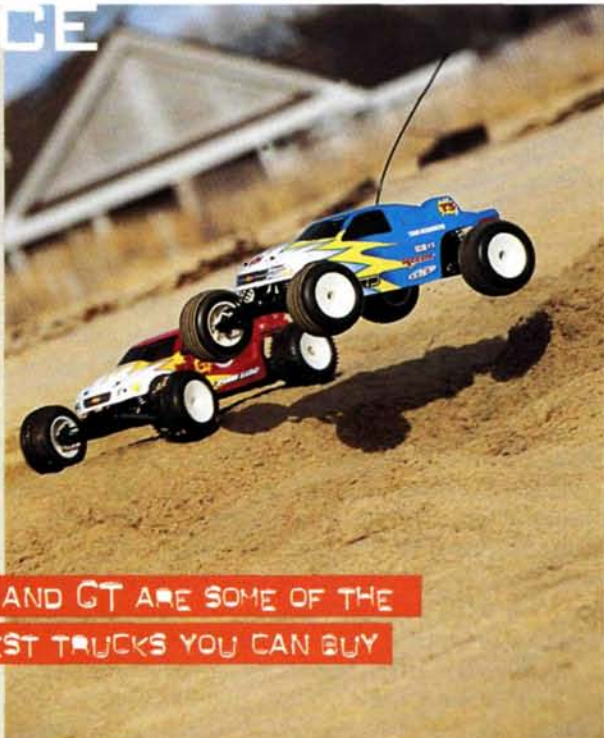
# PERFORMANCE

Hello; these are some of the best race trucks you can buy; is it any surprise they work well? Associated built them right: the diffs are smooth, the slippers grab predictably and the trucks handle as well as the Team kits—even the Factory Team kits. There are tenths to be saved by adding the graphite and titanium trickery of the Factory Team versions, but in terms of driving ease, you lose nothing with a Team Built.

Of course, that assumes you have the right tires for your track. If your track is on the soft and loose side of the soil spectrum, no worries; the stock rubber will hook up. Even without inserts, the firm-ish tires grab well. For hard-packed or blue-groove tracks, you'll want to swap for more appropriate rubber.

Another important choice, especially for the GT, is the powerplant. You don't need a lot of engine in the GT, and I think I overcooked it with the O.S. .15. The GT doesn't mind the power, but it can be a handful to drive. If the traction is up and the slipper is locked down, the GT will wheelie with .15 power,

THE T3 AND GT ARE SOME OF THE BEST TRUCKS YOU CAN BUY



and getting on the gas mid-turn is not recommended unless you have John Force reaction times. Stick with a .12, and you'll probably have more fun and actually get around the track faster.

## THE VERDICT

I like the Team Built T3 and GT a lot, but I'm not sure who they're for; racers (at least the ones I know) prefer to build their own stuff, and most first-timers who aren't interested in building tend to go straight for the traditional ready-to-run. But wait a minute; what about the RTR guy's next truck? I wouldn't be surprised to see more than a few Team Built GTs turn up with Kyosho or Traxxas engines and radio gear, and there are sure to be T3s hitting the track with electronics and batteries originally purchased as hop-ups for an RTR. Of course, I could be wrong about racers, and maybe scads of competitive guys will skip building and just go Team Built. No matter who buys the trucks, I can say this for sure: they won't be making a mistake. The T3 and GT are some of the best trucks you can buy, and now you can buy them built. ■

## LIKES

- Well built, ready for radio, gets you to the track more quickly.
- Best differentials in RC.
- Factory-finished body with Easton style.
- Convenient pre-glued tires.

## DISLIKES

- Convenient pre-glued tires require purchase of new wheels if the stock tires don't match your needs.
- No universal axles.
- Additional parts required to equip pull-start GT with a non-pull-start engine (and vice versa).

## SOURCE GUIDE

**FUTABA** distributed exclusively by Hobbico/Great Planes Model Distributors Co., (800) 637-7660; [www.futaba-rc.com](http://www.futaba-rc.com).

**LRP** distributed by Team Associated.

**MIP** (626) 339-9007; [www.miponline.com](http://www.miponline.com).

**O.S. ENGINES** distributed by Great Planes, (800) 682-8948; [www.osengines.com](http://www.osengines.com).

**PRO-LINE** (909) 849-9781; [www.pro-lineracing.com](http://www.pro-lineracing.com).

**REEDY** a division of Team Associated.

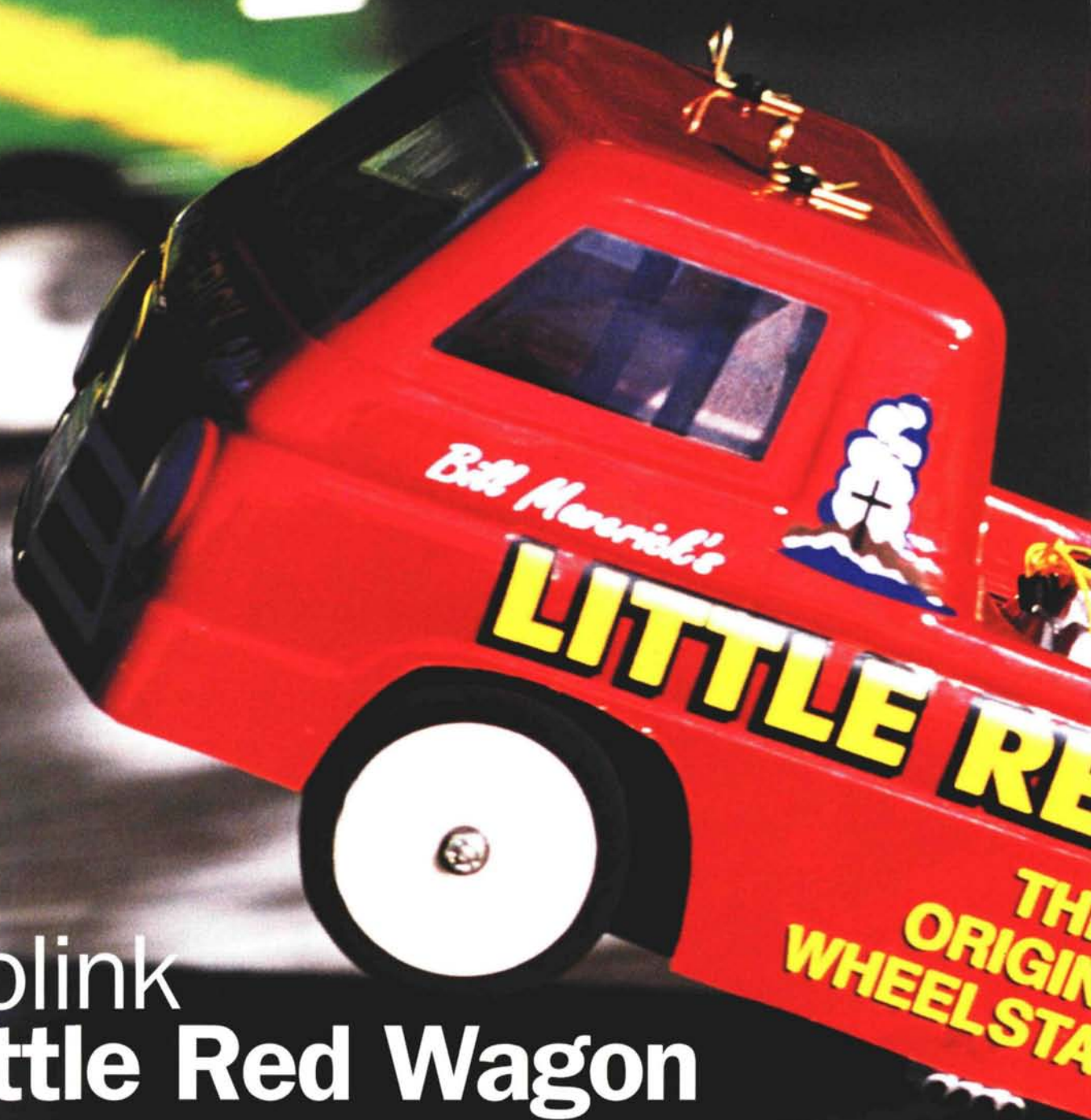
**TEAM ASSOCIATED** (714) 850-9342; [www.teamassociated.com](http://www.teamassociated.com).

**TRINITY PRODUCTS INC.** (732) 635-1600; [www.teamtrinity.com](http://www.teamtrinity.com).









# Bolink Little Red Wagon

**THE FORMULA IS AS FRESH AND SIMPLE TODAY AS IT WAS BACK IN 1964.** Take a light chassis, add a powerful rearward-mounted powerplant, hit the throttle, and let the wheelies begin. That's how Bill "Maverick" Golden did it with his original hemi-powered Little Red Wagon, the truck that defined the wheel-standing category of exhibition drag racing. In creating a replica Little Red Wagon (LRW), Bolink combined the design principles of the original LRW with the simple, cheap-and-fun Legends-style ladder chassis that has served well under many Bolink bodies. Nostalgic wheelie-popping excitement can be the only result!





The original wheelstander



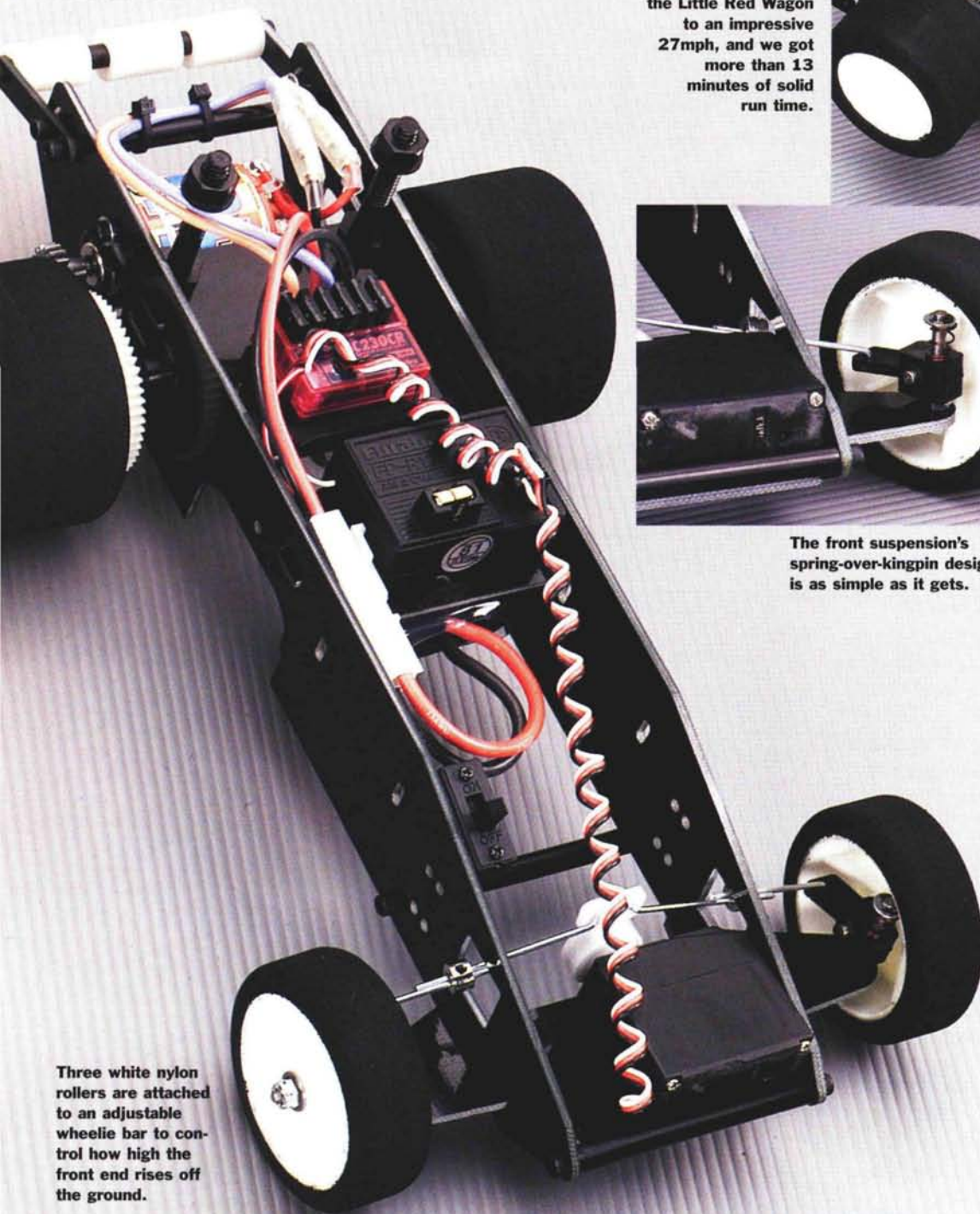
# track test

BOLINK LITTLE  
RED WAGON

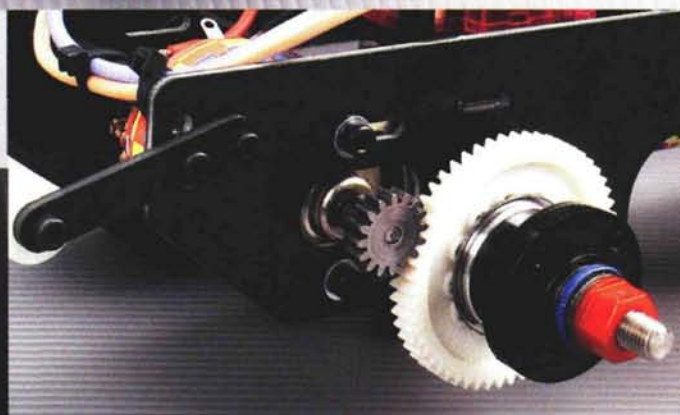
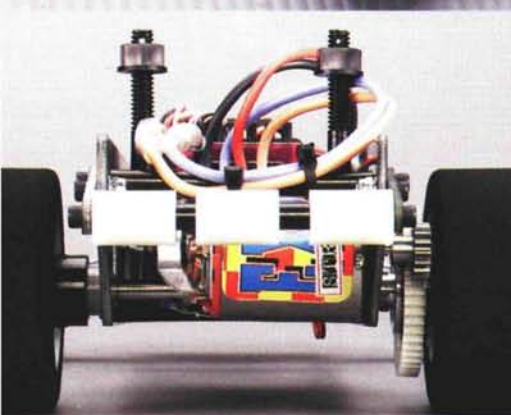
A 4-cell stick pack and stock motor push the Little Red Wagon to an impressive 27mph, and we got more than 13 minutes of solid run time.



The front suspension's spring-over-kingpin design is as simple as it gets.



Three white nylon rollers are attached to an adjustable wheelie bar to control how high the front end rises off the ground.



## DATA CENTER

**VEHICLE TYPE** 1/10-scale electric

### BEST BUYER

Any electric drag-racing/nostalgia enthusiast

**KIT RATINGS** (poor, satisfactory, good, very good, excellent)

Instructions Good

Parts fit and finish Good

Durability Good

Overall performance Good

## SPECIFICATIONS

**MANUFACTURER** Bolink

**MODEL** Little Red Wagon

**SCALE** 1/10

**STREET PRICE** \$99

### DIMENSIONS

Wheelbase 7.66 in. (195mm)

Width 7 in. (178.5mm)

Length 14.75 in. (374.6mm)

### WEIGHT

Total, as tested 36.8 oz. (1,050g)

### CHASSIS

Type Plate

Material Fiberglass

### DRIVE TRAIN

Type 2WD direct drive

Primary 16T pinion, 54T spur gear

Axle Solid steel

Differential Ball-type

Bearing type Oilite bushings

### SUSPENSION

Type (F/R) Sliding kingpin/solid axle

Damping (F/R) Friction/none

### WHEELS

Type Bolink dish

### TIRES

Type Bolink premounted foam

An adjustable ball diff helps the LRW negotiate turns without tearing up the foams.

THE LRW CHASSIS IS IDENTICAL TO BOLINK'S FIRST WHEELIE MACHINES, THE "HOT RODZ" SERIES.



## KIT FEATURES

**CHASSIS.** The LRW chassis is identical to Bolink's first wheelie machines, the "Hot Rodz" series. The chassis consists of two  $\frac{3}{32}$ -inch fiberglass side plates, a  $\frac{1}{16}$ -inch battery tray and a front  $\frac{3}{32}$ -inch suspension plate identical to the Bolink Digger's. The plates are separated by four fiberglass standoffs, and the entire structure is fastened together with supplied Allen-head screws. The right-chassis side plate doubles as the motor mount and accommodates any .05-size motor. Although intended to run on one of Bolink's 4-cell packs, you can run a standard 6-cell stick pack if you mount it cross-wise on the chassis. The body posts screw into the horizontal chassis plates at the front and rear. In the back of the chassis is the adjustable wheelie bar comprised of a simple bracket with plastic rollers that's fastened into a slotted mount in the chassis side frames. Lowering the bar height allows you to limit how high the front end rises off the ground. Once you get used to how the truck behaves riding on the back wheels, you can raise it up all the way.

**DRIVE TRAIN.** Drive trains don't get any simpler than the LRW's. A solid-steel,  $\frac{1}{4}$ -inch axle is the heart of the system. It spins in a set of Oilite bushings (thankfully pressed into the chassis for you by Bolink) and features a simple, adjustable ball differential. Steel diff rings fit onto aluminum flanges pinned to the axle and pressed into the plastic diff hub. The left hub is also plastic and is the same double-pinch-screw design Bolink has used for years. A 54-tooth spur gear and 16-tooth steel pinion are included and, as you may have guessed by the tooth counts, they're 32 pitch—all the better for wheelie-popping abuse.

**SUSPENSION AND STEERING.** Like all of Bolink's ladder-frame cars, the LRW's rear axle is mounted rigidly on the chassis, with no suspension. The front end is modestly sprung by tiny springs over the steering blocks, which slide on their kingpins to provide about  $\frac{1}{4}$  inch of travel—just enough to prevent the front wheels from dancing over pebbles in the black-top. Steering is handled by Z-bend linkages secured by screw collars that join the steering blocks to a  $\frac{1}{12}$ -scale servo-saver (not included). I think Bolink's Z-bend supplier changed the wire spec without telling the Bolink guys; the Z-bends were too big to fit in the included screw collars! I scrounged up another set, and Bolink is fixing the problem. If you wind up with the too-big linkages, Bolink will replace them.

**BODY, WHEELS AND TIRES.** The LRW's van-nosed flatbed Dodge A-100 body is faithfully reproduced in Lexan and painted for you by Bolink, complete with silver-sprayed engine and header pipes. All you have to do is apply the decals to the exterior, trim the wheel wells and body-post holes, and go play. Foam tires on white, one-piece plastic wheels have plenty of grip for wheelie action. The "fatty" tires out back and the skinnier front foams really look the part of the full-size drag truck.

## BUILDING & SETUP TIPS

If you have ever worked on a Bolink ladder-frame kit, you know that they're painless to assemble. The large fiberglass chassis plates are slotted together and screwed into place, making the progress go quickly. Just the same, here are a few items to guide you along.

**TOOLS.** The list is short when you go digging into your toolbox. Grab a pair of pliers, a  $\frac{1}{4}$ -inch nut driver and a  $\frac{7}{16}$ -inch socket. Everything else is included in the kit's goodie bag.

**FRONT AXLE PLATE.** After skimming through the instructions and glancing at the diagram, I expertly installed the front axle plate backward my first time around; duh. Make sure the squared-off center section faces forward in the chassis.

**BUSHINGS.** If you keep the bronze bushings in your LRW, maintain them well lubricated for optimum performance. Better yet, pick up Bolink's bearing set (BL5451).

**TAILGATE BRACES.** For added realism, install the tailgate braces that run diagonally from the bed to the gate. It took me a while to figure out that they're molded into the back of the body just below the drag chute.

**WHEELIE ROLLERS.** Start driving with the rollers in the lowest position to get a feel for how the truck reacts on acceleration. As your confidence increases, go ahead and raise the bar's height to allow the front end to rise higher.

## "The Big" Little Red Wagon

Detroit, 1964. Frank Wylie, the head of public relations for Chrysler's Dodge division, had the brainstorm of installing their new 426 Hemi engine into the bed of their also new A-100 compact pickup truck. Whether it was a marriage made in heaven or not depends on which side of the 10-foot-high wheelstands you were on; at least three drivers who attempted to tame the beast



wanted nothing more to do with the truck after it lofted them into the air. Dodge was hoping to use the modified pickup in an upcoming TV commercial, so they asked top drag racer Bill "Maverick" Golden to come to Detroit and have a go with the monster. After one pass, Bill informed Mr. Wylie that the truck was uncontrollable and that it would most likely seriously injure someone. Frank asked the Maverick to take the truck to his home in California to try and work out the kinks in time for filming. Golden agreed; not only was the commercial shoot a success, but Bill also created a new category of drag-racing exhibition for wheelstanders. Today, vehicles such as Hemi Under Glass, Super Winch, Texas Bandit and Wells Cargo entertain crowds with their own brand of wheelstanding excitement, but the Little Red Wagon remains the original and most beloved. Bill "Maverick" Golden still campaigns the Little Red Wagon to this day.

### YOU'LL NEED

- Transmitter and receiver
- Steering servo
- 4-cell battery pack
- Electronic speed control
- Battery charger
- Lightweight grease

### FACTORY OPTIONS

- Chrome wheels—item no. BL3208
- Bellcrank steering—BL5210
- Steel wheelie rollers—BL5211
- Ball-bearing set—BL5451



# track test

BOLINK LITTLE  
RED WAGON

TEST GEAR

## Futaba MC230CR ESC

This 20T+ capable unit designed for 6 or 7 cells accelerates smoothly and provides solid braking action until you engage reverse by pushing the trigger forward a second time. The unit comes equipped with bullet-style motor connectors and a JST (Tamiya) plug for the battery. The little ESC's many highlights include reverse lockout, automatic shutdown for overload, shorting and high temperature, plus what Futaba calls "forget me not." In the event that you turn the transmitter off before the receiver, it sounds an alarm to get your attention.

Others items we used to complete the kit include:

**Futaba Magnum transmitter**

**Trinity Ex-Spec motor**

**Bolink/Trinity 4-cell Spec battery**

With a fresh charge in the 4-cell pack, the first run of the LRW was down our 200-foot carpeted hallway, a tradition with all electric vehicles here at the magazine. The truck immediately raised its front end on acceleration and sprinted away far too fast for indoor use. Nobody was more shocked at the truck's performance with 4 cells than I was. We adjourned to the parking lot, where the radar gun confirmed a top speed of 27mph! The truck tracked slightly to the right while on the wheelie bar, so I shifted the bar down slightly on the right side. The subsequent wheelies were perfectly straight, and the truck ran wide open on the back tires for the length of our lot. After a few minutes, it was necessary to back up the truck a few feet and punch the throttle to get the front in the air, but that in no way diminished the fun we were having. Being so tail-heavy, the truck pushes wide in turns, but the light front grip actually adds to the truck's character. Owing to the lack of rear suspension, we found that even the smallest pebbles in the lot were enough to send the truck tumbling. The only casualty of our testing (aside from scraping up the body) was a broken front body mount after somebody (his name begins with a "P" and ends with "ete") skied the truck off a speed bump. Even though we did the majority of the running at full speed, we still got 13 minutes of solid run time. If you drive the truck at anything less than nonstop, wide-open throttle settings, I'm confident you could go 15 minutes.

## LIKES

- Prepainted body.
- Authentic wheel-standing performance.
- Less than \$100.

## THE VERDICT

The full-size Little Red Wagon was created to go straight down a drag strip on its hindquarters—something that Bolink's model does extremely well. If the novelty of wheelie action begins to wear, move the battery pack forward to keep the front end planted on the ground.

Although the truck's short wheelbase makes it a tad twitchy at times, chalk it up as being part of the model's character. If you're after something a little different from the norm and you have some spare radio gear lying around, the Little Red Wagon makes a perfect home. The kit is inexpensive, quick to build and a cool change of pace. ■

## DISLIKES

- Easy to tip.
- Smooth pavement use only.

## SOURCE GUIDE

**BOLINK R/C CARS INC.** (770) 963-0252; [www.bolink.com](http://www.bolink.com).

**FUTABA** distributed by Great Planes; [www.futaba-rc.com](http://www.futaba-rc.com).

**GREAT PLANES** (800) 637-7660.

**TRINITY PRODUCTS INC.** (732) 635-1600;  
[www.teamtrinity.com](http://www.teamtrinity.com).



**VTM**  
VENOM TEMPERATURE MONITOR

# CAN YOU FEEL THE HEAT?

**YOU NEED INFO TO TWEAK AN ENGINE. NOW YOU CAN GET IT!!**

IN THE PAST, ALL KINDS OF DEVICES HAVE BEEN USED TO CHECK ENGINE TEMP IN PITLANE. WHAT'S BEEN MISSING IS THE ENGINE TEMP IN THE HEAT OF SERIOUS RACING. VTM IS WHAT YOU NEED. FEATURING ONE BUTTON HIGH TEMP TECHNOLOGY, VTM RECORDS THE HIGHEST TEMP REACHED FOR RECALL AFTER THE RACE. EXTRA FEATURES INCLUDE ON/OFF BUTTON, ADJUSTABLE LOOP PROBE AND C°/F° OPTION. THE VTM IS FUEL PROOF FOR DURABILITY.

**FOR MORE INFO CHECK [WWW.VENOM-RACING.COM](http://WWW.VENOM-RACING.COM) OR FAX 011 61 2 9939 6955**

**VTM**  
VENOM TEMPERATURE MONITOR









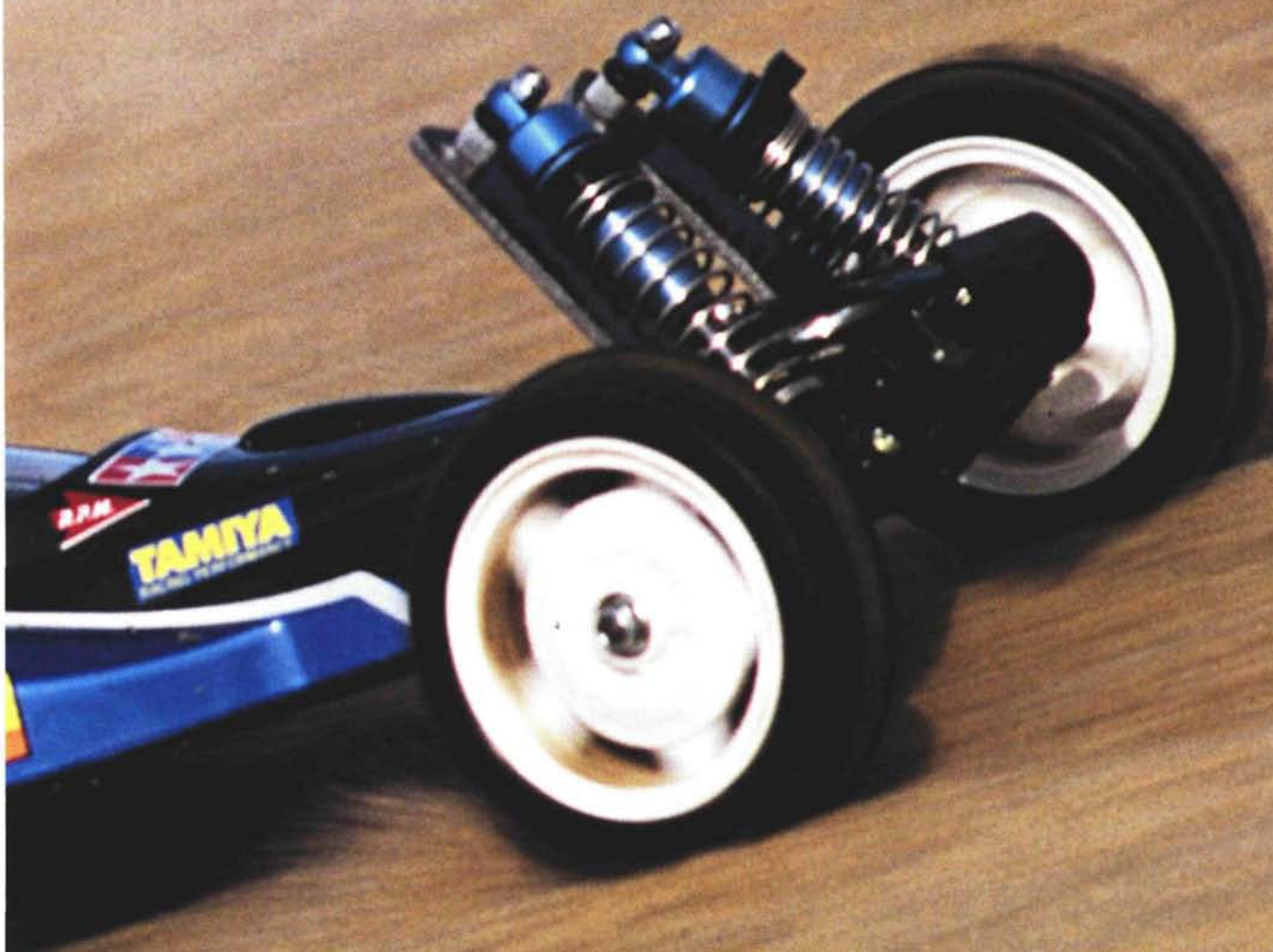


# Tamiya Dyna Storm

by George M. Gonzalez







## STILL INNOVATIVE, 10 YEARS LATER

**IF YOUR LONG AND EXHAUSTIVE HUNT FOR A MINT-CONDITION DYNA STORM HAS BEEN UNSUCCESSFUL**, your search is over. Tamiya has re-released the Dyna Storm, complete with all the innovative features it brought to buggy-dom in 1993 plus a few newer features that were not included with the original. Many of the Dyna Storm's features are still appealing today: bushing-supported suspension arms, aluminum-body shocks with internal Teflon sleeves and a multi-disc slipper clutch are just a few of the concepts that Tamiya introduced to the 2WD scene. Some Dyna Storm innovations disappeared; others resurfaced later with new twists in other brands, but all make the Dyna Storm a collectible that is only a trip to the hobby shop away.





# DYNA STORM

## SPECIFICATIONS

SCALE 1/10

LIST PRICE \$280

### DIMENSIONS

Wheelbase 10.1 in. (256.54mm)

Width 9.625 in. (244.47mm)

### WEIGHT

Total, as tested 72 oz. (1,587g)

### CHASSIS

Type Double deck

Material Fiberglass and plastic

### DRIVE TRAIN

Type Sealed 3-gear, 2WD

Drive shafts Universal joint

Differential Ball

Bearing type Sealed ball bearings

### SUSPENSION (F/R)

Type Lower suspension arm/turn-buckle upper link

Shocks Oil-filled aluminum-body, blue-anodized

### WHEELS

Type One-piece plastic 2.2

### TIRES (F/R)

Type Blade-spike/pin-spike



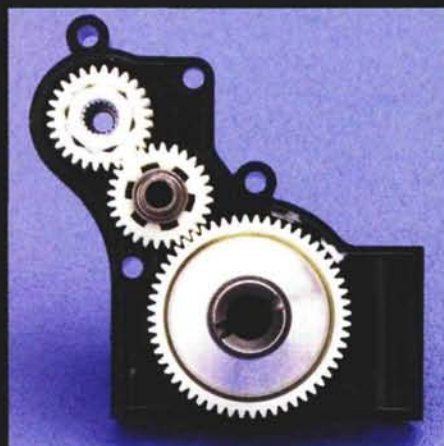
## FEATURES

### BUSHED SUSPENSION

**ARMS.** The Dyna Storm's inner and outer stainless-steel hinge pins pivot on bronze bushings installed in the suspension arms for smooth, friction-free, slop-free performance. Unfortunately, bushings increase cost, complexity and unsprung weight, and that probably explains why they never caught on. But for all except the most hard-core racers, the positives outweigh the negatives, and I would welcome bushed arms on any kit.



Replaceable bushings in the arms give the Dyna Storm super-smooth (yet slop-free) suspension action. Note the old-school 90-degree short steering arms.



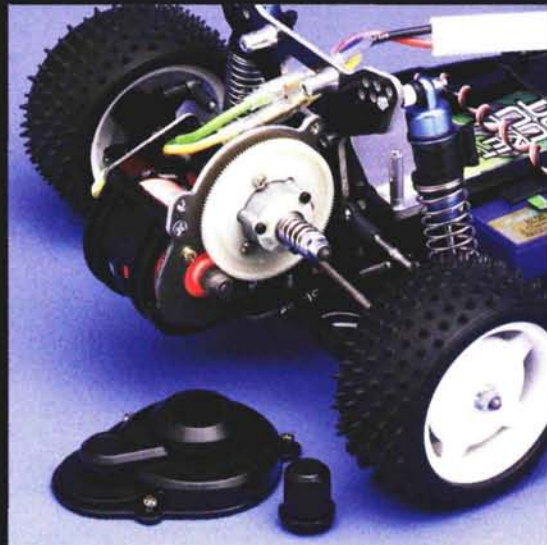
This gearbox would be comfortable in any modern buggy. Note the top gear's aluminum insert, which is splined to fit the top shaft.

Storm gearbox is as quiet and close to being friction-free as today's best trannys. Tamiya has always produced excellent gearboxes.

**MULTI-DISC CLUTCH (MDC).** The slipper-clutch concept was still relatively new in '93, and there was plenty of room for new ideas. Tamiya's slipper is very much like a full-scale multi-plate setup, or "multi-disc system."

The clutch has three pads with metal discs between them. The discs

With the hard-plastic gear cover removed, we see the "metric 64 pitch" (04 module) spur gear and the cast slipper clutch housing. The gear cover has a removable, O-ring sealed cap for slipper access.



### THREE-GEAR TRANSMISSION

The Dyna Storm's 3-gear racing tranny is similar in design to current, competitive 2WD off-road vehicles, but it's overbuilt by today's standards. The top shaft is massive, and the ball diff is weighty because of its thick, aluminum diff flanges and the large drive cups that fit into them via splines. Though it may not spool up as quickly as modern designs, the Dyna



There's a lot going on with the multi disc clutch system. The fiberglass-like slipper pads are sandwiched between steel discs keyed to the top shaft, and a cast hub houses all the parts. It's hefty, but it works great.

turn with the top shaft, while the pads are keyed to the cast-alloy spur-gear mount/clutch housing. Tamiya was on the right track when it introduced multiple pads (an idea endorsed by Team Losi's dual-pad Triple-X-series setup), but unlike the large-diameter pads used today, the Dyna Storm's pads are about the same diameter as a nickel. Still, the clutch operates very smoothly and is highly adjustable. It's heavy, though; the thick, steel clutch discs and cast-alloy housing add significant weight to the system.

**SLEEVED SHOCK BODIES.** Here's an idea that should have caught on: instead of coating the shock body or allowing the shock pistons to simply wear on the aluminum bodies, the Dyna Storm's blue-anodized aluminum shocks feature internal Teflon sleeves that provide super-low friction operation and can easily be replaced when they're worn. Each shock's dual O-ring seals are bottom-loaded, and Teflon shaft guides minimize friction and shaft deflection. As was fashionable back in 1993, the Dyna Storm

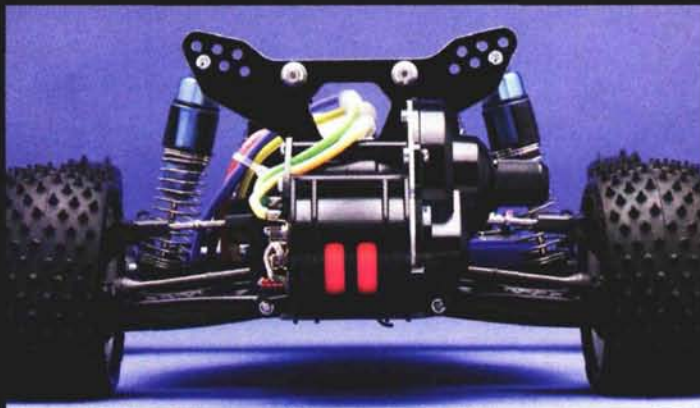
Replaceable Teflon sleeves give the Dyna Storm exceptionally smooth shocks. Why didn't this idea catch on?



uses long front shocks. The front and rear shock bodies and shafts are the same length, and spacers in the front shocks make them just 4.4mm shorter than the rears.

**PIN-SPIKE TIRES AND STAR-DISH WHEELS.** The multi-spike rear and single-rib and offset-spike front tires are totally retro. These tires work great on fluffy, loose dirt and are perfect for backyard bashing. The star-dish wheels also give the buggy a retro look and are compatible with 2.2-inch racing tires, if you care to do a little retro racing.

**FIBERGLASS CHASSIS AND SHOCK TOWERS.** The Dyna Storm features an ultra-rigid, double-deck chassis. Raised-plastic side guards form a tub to prevent dirt and other debris from collecting on the chassis. The shock towers are also fiberglass, and feature several shock and camber-link mounting locations for tuning versatility.



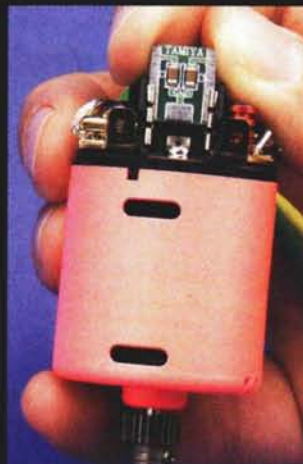
Check out the wide shock tower and nearly vertical shocks; that was the hot setup back in the day. Remember when all tires looked like these?



**BALL-BEARING STEERING.** The bearing-equipped bellcranks pivot smoothly on aluminum posts, and large-diameter, 6mm-aluminum ball joints are used at all the pivot points to increase durability. A heavy-duty servo-saver is also included.

**UNIVERSAL SWING SHAFTS.** Universal-joint axles have been the standard on competition cars for years, and the Dyna Storm has 'em. The parts appear to be castings, and splined stub axles are used to engage aluminum drive hexes. The original Dyna Storm had metal bushings in the

Tamiya has always had a thing for splines; the ball differential uses splines to join the outrives to the ring flanges, and the universal drive shafts use splined hex adapters. All the parts fit together perfectly, as Tamiya parts always have.



Here's a feature the Dyna Storm didn't have back in '93! The included Tamiya 17-turn motor has a neat surface-mount capacitor system. To replace the caps, just slide them out of the endbell.

wheels, but the re-release is a full-bearing machine.

**TURNBUCKLE TIE RODS.** Stainless-steel tie rods allow camber and front toe-in adjustment. The kit includes a wrench to make the adjustments a snap.

**TAMIYA 17-TURN MOTOR.** The original Dyna Storm didn't include a motor, but this new version includes an open-endbell, 17-turn mod motor. It features a unique slide-in capacitor board that makes it easy to replace the capacitors. The motor is modern, but its hot-pink finish is very early '90s.



**B**efore I could hit the track, I had to dial in the Dyna Storm's MDC slipper, which was way too loose as it was initially set by the "looks-OK-to-me" method. The clutch works quite well; in a predictable way, every  $\frac{1}{2}$  turn of the adjusting nut brought the clutch closer to "locked," and once set for about one foot of slip, the clutch grabbed very progressively. It felt just as smooth as today's best buggies! The included 17-turn motor has plenty of scoot, too. The Dyna Storm had no trouble ripping wheels in the hallway as I was setting up the steering trims before heading to the track, and the radar gun confirmed a top speed of 23mph with stock gearing.

On the track, the Dyna Storm's stand-up shocks and long-travel front suspension made it an exemplary bump-eating machine and helped the rock-hard spike tires find grip. Maybe buggies had such pillow-soft suspensions back then because the tracks were softer and the tires were harder, so their grip had to come from the suspension as much as the tire setup. Jumping was a blast; the cushy suspension just soaks up landings.

As I clicked off laps, I kept waiting for some kind of "Wow, buggies are so much better today!" epiphany, but it never came. I'm sure a modern B3 or Triple-X would have no trouble putting a lap on the Dyna Storm, but in terms of predictable handling and mechanical integrity, the Dyna Storm is still a perfectly competent buggy. It makes sense; buggies haven't really changed too much since the

basic-competition-buggy formula crystallized in the late '80s.

If you're a dedicated Tamiya-phile who just has to race 2WD off-road with a T-machine, you could tweak the Dyna Storm into a decent runner. I don't think that's what Tamiya had in mind when it re-released the buggy, but the possibility is there. The best home for the Dyna Storm is probably the display shelf. It won't have the type of parts support needed for serious racing applications, and, as good as the buggy is in its historic context, you'll have a much easier time on the track with a modern machine. (Wouldn't it be cool if there was a vintage class to run in?)

The Dyna Storm represents a great collecting opportunity; you don't have to wage a bidding war on eBay to get one, and you're sure to get your Dyna Storm in new-in-box condition—because you'll be buying it new, in the box! And since the kit is a "limited-release" item, it won't be available for long, and that just about guarantees its collectibility.

The Dyna Storm is a very cool, innovative buggy that's fun to look at and drive. Even if you get yours just to park on a shelf, do drive it at least once—you'll be missing out if you don't. Better yet, buy two—one to tuck away, the other to play with! ■

## SOURCE GUIDE

TAMIYA AMERICA INC. (800) 826-4922; [www.tamiyausa.com](http://www.tamiyausa.com).





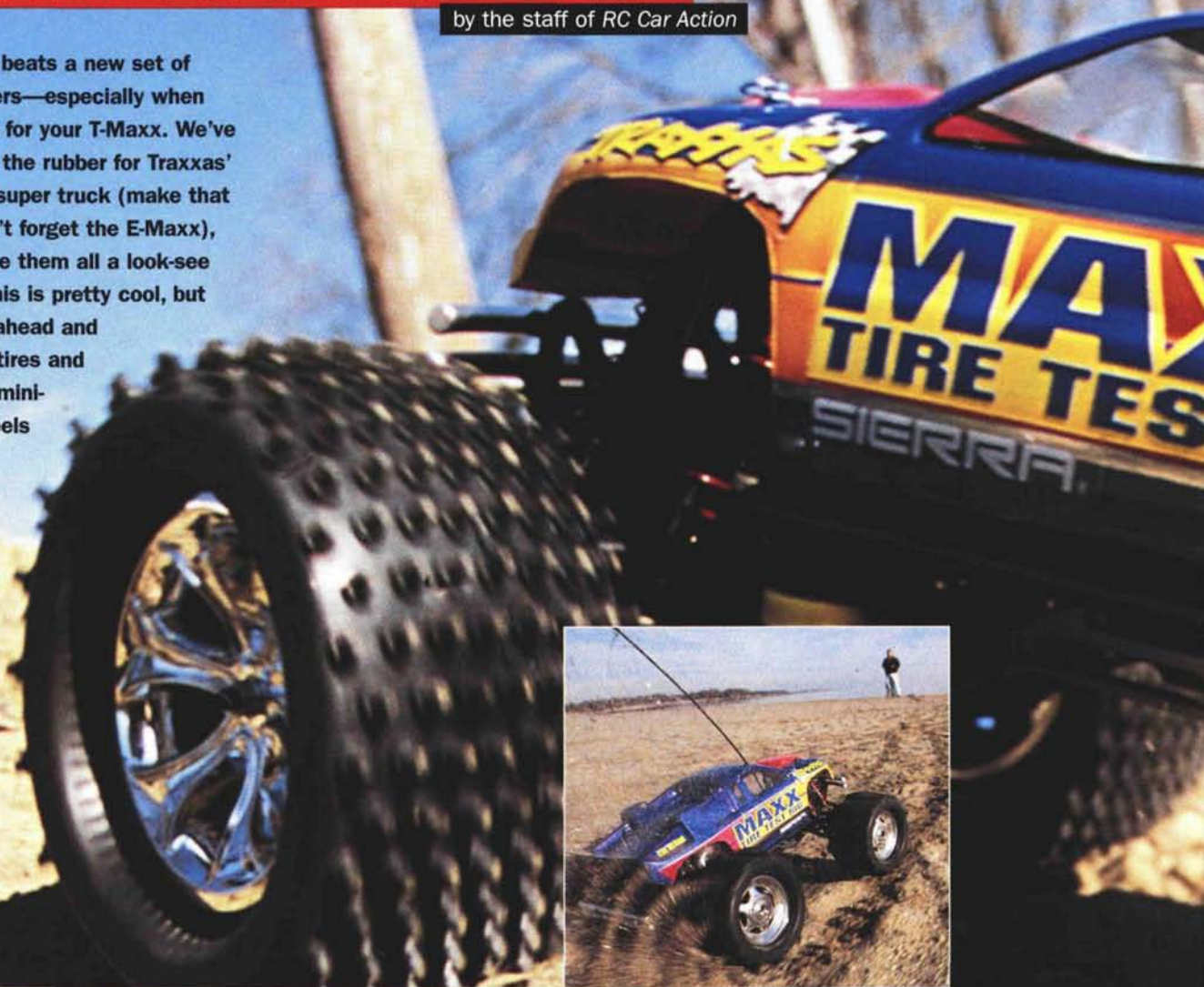


# TREAD WAY

## MAXX TIRE GUIDE

by the staff of RC Car Action

**N**othing beats a new set of sneakers—especially when they're for your T-Maxx. We've rounded up all the rubber for Traxxas' world-beating super truck (make that "trucks"—can't forget the E-Maxx), so you can give them all a look-see for yourself. This is pretty cool, but we also went ahead and tested all the tires and even threw in mini-guides for wheels and foam inserts. Are you feeling the love?





# REFARE



Photos by Peter Hall

## IMEX

For long-time monster-truck fans, IMEX needs no introduction; this monster-tires-only brand has been popular with truck guys since the big-boom days of the 1980s, and the company recently extended its line of monster-size tires to include models for the Maxx trucks—obviously, or IMEX wouldn't be in here!



### BAJA

**COMPOUNDS:** soft, medium

**SUGGESTED USE:** all off-road conditions

**TEST NOTES:** the Baja's thin, low-profile, curlicue tread shape hooked up well on hard-packed dirt and rolled well on the street but wasn't quite as good on really rough stuff. The soft-compound version did grip better, but you really don't need any more grip than the medium compound provides, and the firmer rubber wears longer.

**RATING** ★ ★ ★ ★ ★



### J-HAWG

**COMPOUNDS:** soft, medium

**SUGGESTED USE:** all off-road conditions

**TEST NOTES:** the J-Hawgs have a gnarly look that is a nice change from chevron-type treads. The "soft" and "medium" compounds had a negligible effect on grip, and the Hawgs had no trouble tearing over any sort of terrain. The broad tread shapes didn't provide as much sidebite in turns as knob-based treads, but that's to be expected.

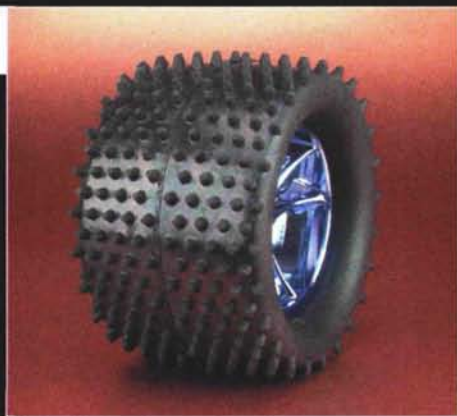
**RATING** ★ ★ ★ ★ ★



# READ WARFARE

## PANTHER

Panther was the first company to offer non-chevron Maxx tires when it debuted the Meat Grinder in 2000. The Grinders are now joined by four additional tread patterns, all in Panther's "medium-soft" compound. All the tires include foam inserts, but Panther recommends that you upgrade to its Racing Foams—see the "All about inserts" sidebar for details.



## HOW WE RATED THE TIRES

We rated each tire by how easy it was to mount, how well it performed on its intended terrain, and how durable it was. All tires were mounted on standard-offset wheels with their included inserts.

★★★★★ **Excellent**

★★★★ **Very Good**

★★★ **Good**

★★ **Fair**

★ **Barely good enough to use as a drink cozy**

### MEAT GRINDER

**COMPOUND:** medium-soft

**SUGGESTED USE:** all off-road conditions

**TEST NOTES:** the Meat Grinder is the original non-chevron aftermarket Maxx tire, and it's still a good performer. The aggressive spike knobs grip well in the backyard and on soft, loamy track surfaces. For all-around performance and play action, the Meat Grinder is Panther's best tire.

**RATING** ★★★★★

### PADDLE

**COMPOUND:** medium-soft

**SUGGESTED USE:** loose sand

**TEST NOTES:** these paddles moved a lot of sand but didn't propel the test T-Maxx as well as the Pro-Line paddles. The Panthers did have a little more sidebite but still skated quite a bit in the turns. Paddles, in general, just don't turn well; but what else are you gonna run on the beach?

**RATING** ★★★★★

## RIM SHOT

Gotta get new hoops to go with those tires, right? Of course. Here's what's out there: in addition to style options, many designs are offered with greater than stock offsets to make your Maxx wider and tougher to flip. For you frugal types, Stormer's Beadlock

design allows you to mount tires without glue, thanks to a clamping design. No glue, and no need to toss out the wheels when your tires wear out.

### RPM



#### TITAN

**Offsets:** standard; StableMaxx (adds 1.2 in. to truck width)  
**Finish:** chrome, blue chrome, purple chrome, dyeable white  
**Weight:** 36g  
**Item nos.:** too many part numbers to list; dyeable \$12.95/pair; chrome \$16.95/pair; blue/purple chrome \$17.95/pair.

#### MONSTER CLAWS

**Offsets:** standard; StableMaxx (adds 1.2 in. to truck width)  
**Finishes:** chrome, blue chrome, purple chrome, dyeable white  
**Weight:** 32g  
**Item nos.:** too many part numbers to list; dyeable \$12.95/pair; chrome \$16.95/pair; blue/purple chrome \$17.95/pair.

### IMEX



#### OUTLAW

**Offset:** standard  
**Finishes:** chrome, brushed chrome, white nylon  
**Weight:** 54g  
**Item nos.:** 7063 (chrome), 7064 (brushed) \$29.99/pair; 7065 (white) \$25/pair.

#### NEVADA

**Offset:** standard  
**Finishes:** chrome, brushed chrome, white nylon  
**Weight:** 50g  
**Item nos.:** 7060 (chrome), 7061 (brushed) \$29.99/pair; 7062 (white) \$25/pair.





## PLOW BOY

**COMPOUND:** medium-soft

**SUGGESTED USE:** all off-road conditions

**TEST NOTES:** the Plow Boy design had good forward grip on backyard-type terrain, and it seemed to have less rolling resistance than many of the other tires with more aggressive treads. Not much sidebite on dirt though, so you might want to try another tire if you plan to race as well as play.

**RATING** ★ ★ ★ ★



## PLOW BOY 2

**COMPOUND:** medium-soft

**SUGGESTED USE:** all off-road conditions

**TEST NOTES:** there was no performance difference between the "2" tires and the standard Plow Boy tires, except for cornering capability. The staggered tread shapes present more edges to dig in when turning, and while still not great race tires, the Plow Boy 2s can get around a soft-surface track pretty well.

**RATING** ★ ★ ★ ★



## MEGA MAX

**COMPOUND:** medium-soft

**SUGGESTED USE:** all street, asphalt and concrete surfaces

**TEST NOTES:** these sticky gumballs gripped like a monkey getting shock treatment—especially when they warmed up. As long as the pavement is reasonably clean, you'll never run out of traction. Just watch out for traction rolling.

**RATING** ★ ★ ★ ★

## PRO-LINE



### VELOCITY DISH

Offset: standard, 1/2 in.

Finishes: yellow, white

Weight: 32g

Item nos.: 2660-02 (yellow standard), 2660-04 (white standard), 2663-04 (white 1/2 in.) \$14/pair.



### WELD OUTBACK

Offset: standard

Finish: chrome

Weight: 32g

Item no.: 2656-01 \$18/pair.



### WELD VELOCITY 6

Offsets: standard, 1/2 in.

Finish: chrome

Weight: 45g

Item nos.: 2657-01 (standard), 2662-01(1/2 in.) \$18/pair.



### WELD SUPER SINGLE

Offset: standard

Finish: chrome

Weight: 45g

Item no.: 2659-01 \$18/pair.

## ALUMINUM OR PLASTIC?

For pure performance, stick with plastic wheels. They're lighter (32 to 91 grams versus 120 to 150 grams for aluminum hoops), and the weight savings are particularly precious because the wheels are rotating, unsprung mass. Your Maxx will accelerate more quickly and its suspension will respond faster with lighter wheels.

Since this is a performance-oriented guide, we're sticking with plastic wheels, but feel free to go with alloy for looks and realism. Hardcore Racing Components, XTM Racing, Dynamite, Rad Tech, HG, New Era and others offer scads of styles. Stormer Hobbies also offers an aluminum version of its Beadlock design.

## STORMER

### MAXIMIZER COMPOSITE BEADLOCK

Offset: standard

Finishes/styles: black, blue, purple, red; 5-hole, 5-spoke, solid dish

Weight: 91g

Item nos.: too many part numbers to list; \$29.95/pair.





# TREAD WEARARE

## PRO-LINE

You can't talk about RC tires without mentioning Pro-Line, and it's no surprise that the tire giant has a large selection of Maxx rubber to suit all surfaces. The street and performance Maxx-series tires are molded of M2 compound rubber that Pro-Line selected for its performance and wear characteristics, while stiffer XTM rubber is used for the Paddle and Mulcher tires to better support their larger tread shapes.



## BEST RACETIRE



## BOW TIE

COMPOUND: M2

SUGGESTED USE: packed dirt, competition off-road conditions

TEST NOTES: this is the ultimate off-road-track tire, ideal for all racing conditions except for really soupy stuff (use the Maxx Mulcher instead). The Bow Tie pattern is well proven in Pro-Line's buggy and 2.2 truck tire lines, and when applied to large-carass rubber, it provides incredibly tenacious traction.

RATING ★★★★★



## MASHER

COMPOUND: M2

SUGGESTED USE all off-road surfaces, "extreme" terrain

TEST NOTE 5: the Masher is one of the most popular Maxx tires, probably due to its hardcore look. It's also a hardcore performer, with all the rock-, root-, and rugged-terrain-climbing ability you need to rip up the woods. Our only complaint is the tread's tendency to crack where it meets the tire carcass. We haven't had a tire shed tread, but it just doesn't look right.

RATING ★★★★★

## MAXX TIRE SPECIFICATIONS

	APPLICATION	COMPOUND(S)	INSERTS	WEIGHT	MAX. DIAMETER	MAX. TREAD DEPTH
• IMEX	J-HAWG	All off-road	Soft	263g	143mm	8.9mm
	BAJA	All surfaces	Soft	95g	139mm	7.3mm
• PANTHER	PADDLE	Sand	Firm	158g	147mm	9.5mm
	PLOW BOY	All off-road	Firm	172g	138mm	5.1mm
	PLOW BOY 2	All off-road	Firm	172g	138mm	5.1mm
	MEGA MAXX	Street	Firm	163g	134mm	-
	MEAT GRINDER	All off-road	Firm	154g	138mm	140mm
• PRO-LINE	MASHER	All off-road	Firm oversize	186g	143mm	5.3mm
	BOW TIE	Hard-pack	Firm oversize	136g	142mm	2.5mm
	ROAD RAGE	Street	Firm oversize	154g	144mm	2.4mm
	PADDLE	Sand	Firm oversize	163g	154mm	10.5mm
	MULCHER	All off-road	Firm oversize	195g	152mm	6.1mm
• TREADZ	G1 SLICK	Street	Medium firm	123g	134mm	-
	G2 TRACTOR	All off-road	Medium firm	186g	144mm	6.8mm
	G3 GRASS	Grass	Medium firm	199g	141mm	2.7mm
• TRAXXAS						
	STOCK TIRE	All off-road	Firm	Soft	217g	149mm

"Weight" is for single tire, without insert; "Max. tread depth" is the distance from tire carcass to tip of tallest tread.

"Weight" is for single tire, without insert; "Max. tread depth" is the distance from tire carcass to tip of tallest tread.



## BEST SAND TIRE



### PADDLE

COMPOUND: XTM

SUGGESTED USE: sand, snow, and mud

TEST NOTES: Pro-Line wanted to build a genuine performance paddle tire, and after testing the Maxx Paddles, we think it succeeded. These tires will excavate a beach quicker than a backhoe, and they will slingshot your Maxx through the soft stuff in record time. Just don't try to turn too quickly. These tires are all about forward grip, and they provide little sidebite.

RATING ★★★★★

## BEST BACKYARD TIRE



### MULCHER

COMPOUND: XTM

SUGGESTED USE: grass, loamy conditions, all off-road surfaces

TEST NOTES: Pro-Line's most aggressive tread is molded of XIM rubber to prevent the knobs from tearing, and the firmer compound gives the step-spikes extra bite. The Mulchers hooked up everywhere and proved especially well suited to the mixed terrain of the classic American backyard: dirt, rocks, leaves, roots, whatever... the Mulcher shredded it all.

RATING ★★★★★

## BEST STREET TIRE



### ROADRAGE

COMPOUND: M2

SUGGESTED USE: all street, asphalt and concrete surfaces

TEST NOTES: the Road Rage treads are grippy and long-wearing, and they provide better grip on silty parking lots that cause pure slick tires to slip and slide. Performance counts most for this tire test, but it doesn't hurt that the Road Rage's detailed, precisely molded tread looks killer. This is our favorite tire for street-theme Maxx projects.

RATING ★★★★★

#### ITEM NO.

#### \$/PAIR

7400 (S), 7401 (M)	\$25
7402 (S), 7403 (M)	\$25

PT850	\$30
PT959	\$30
PT952	\$30
PT957	\$30
PT950	\$30

1075-00	\$29
1079-00	\$29
1082-00	\$29
1084-00	\$29
1085-00	\$29

TGX1C	\$27.99
TGX2C	\$27.99
TGX3C	\$27.99

\$26

## ALL ABOUT INSERTS

Which type of inserts should be in your tires? The stock inserts included with Maxx tires are generally fine, but aftermarket inserts can be used to fine-tune your tires. Here are some examples.

### PANTHER RACING FOAMS

Because Maxx tires use sidewalls that extend well past the faces of the rims, traditional foam inserts tend to leave the sidewalls "empty." To solve this problem, Panther's foam slab-type inserts include foam rings that fit into the sidewalls. Installation is a little tricky, but when finished, you'll have exceptionally well-supported rubber.

### PRO-LINE MAXX IMPACT

"The firmer, the better" is the idea here. The Impact foams are about twice as stiff as the Traxxas stockers, so the tires deflect less in the turns and the tread is better supported.

### TRINITY LOW-ROLL INSERTS

Trinity's take on the Maxx tire insert is a glue-together firm/soft combo. The firm outer rings bolster the sidewalls, while the low-bounce, softer center ring reduces rebound and allows the center tread to conform to surface irregularities. Flexible-insert assembly glue is included.



Trinity Low-Roll insert



# TREADZ WARFARE

## TREADZ

Treadz was the first to offer a full line of factory-glued tires with three Maxx-model tires to suit all surfaces—even a grass-specific model. The tires are sold unmounted in pairs (as we tested them) or can be purchased factory-mounted on stock Traxxas Maxx wheels. No matter how you buy them, foam inserts are included.

### BEST GRASS TIRE



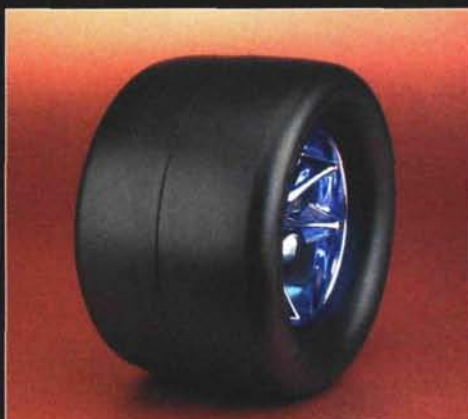
#### G3 GRASS

**COMPOUNDS:** soft

**SUGGESTED USE:** grass (you may have guessed that one), all off-road conditions

**TEST NOTES:** We thought the "grass tire" concept was just marketing hype. Surprise! The G3s really do work best on grass! They're also pretty good all-rounders for smooth off-road surfaces and not bad on pavement either. Five stars for grass-running; four stars for all-around use.

**RATING** ★★★★★



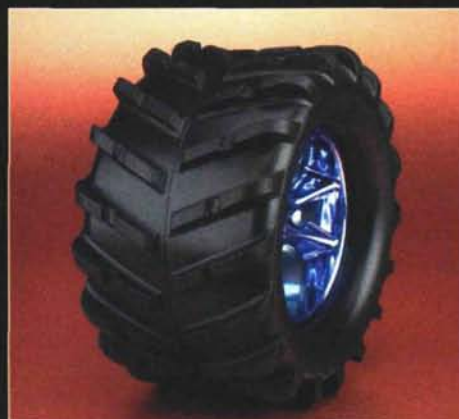
#### G1 SLICK

**COMPOUNDS:** soft

**SUGGESTED USE:** all street, asphalt and concrete surfaces

**TEST NOTES:** the G1s worked as well as the Panther smoothies—in fact, we couldn't detect any difference between them! So far, wear characteristics also seem identical. For clean, street action, consider the G1 slicks.

**RATING** ★★★★★



#### G2 TRACTOR

**COMPOUNDS:** soft

**SUGGESTED USE:** all off-road surfaces

**TEST NOTES:** this tire looks similar to the Pro-Line Masher and performed comparably. The slight radius between the tread bars and the carcass prevents it from cracking, and the Tractors had all the traction their name implies. The carcass could be a little rounder, though; it's got kind of a flat-top thing going.

**RATING** ★★★★★

## SOURCE GUIDE

**IMEX MODEL CO.** (352) 754-8522; [www.imex-model.com](http://www.imex-model.com).

**PANTHER PRODUCTS INC.** (866) 700-8473; [www.panthertire.com](http://www.panthertire.com).

**PRO-LINE** (909) 849-9781; [www.pro-lineracing.com](http://www.pro-lineracing.com).

**RPM R/C PRODUCTS** (909) 393-0366; [www.rpmrcproducts.com](http://www.rpmrcproducts.com).

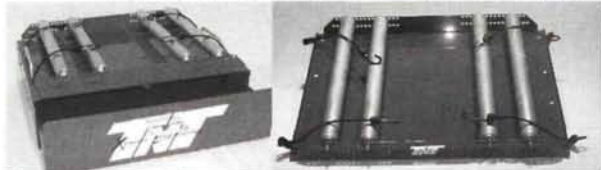
**STORMER HOBBIES** (800) 255-7223; [www.stormerhobbies.com](http://www.stormerhobbies.com).

**TRAXXAS CORP.** (972) 613-3300; [www.traxxas.com](http://www.traxxas.com).

**TREADZ** Distributed by King Distribution (702) 407-6870; [www.treadztires.com](http://www.treadztires.com).

**TRINITY PRODUCTS INC.** (732) 635-1600; [www.teamtrinity.com](http://www.teamtrinity.com).

## www.Xtremeengineering.com



**TNT Deluxe**  
Standard \$169.95  
Monster 1/8 scale \$189.95

**TNT Bench Top**  
Standard \$89.95  
Monster 1/8 scale \$104.95

Tune your vehicle right in front of you, no need to chase it down. The TNT makes it easy to adjust carburetor settings, idle speed, shift point, clutch, brakes, steering alignment and more. All these adjustments can be made from idle to full throttle.

Work Stations allow you to hold and rotate your R/C vehicle to remove any part right down to the frame.

**Standard Workstation**  
One Piece frame \$59.95 (Truck not included)

**Xtreme Workstation**  
Aluminum, collapsible \$109.95 (Truck not included)



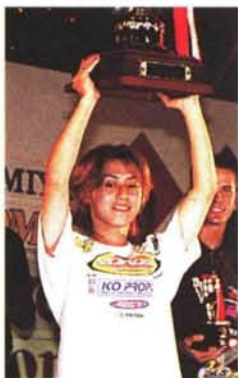
Xtreme Engineering Inc., 28774 State Hwy 34, Detroit Lakes, MN 56501 Phone 218-847-5813 Fax 218-847-8786 E-mail [xtreme@lakesnet.net](mailto:xtreme@lakesnet.net)



BY GREG VOGEL & DEREK BUONO

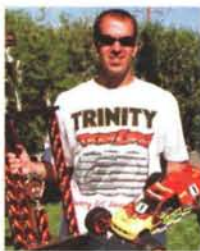
## Schumacher signs Hara and Umino

On-road world champion Atsushi Hara (pictured here) and teammate Kojiro Umino will run the Schumacher CAT3000 at the Japan Nationals. They'll be taking on Masami and his new, as-yet-unseen Yokomo four-wheeler, so it should be an interesting race.



## Francis and Tebo win at Reedy Race

The 2001 Reedy truck race once again brought the Factory guys together for some great racing. Matt Francis (right) won Mod Truck with his Trinity-powered signature Losi, and



Associated phenom Jared Tebo (left) brought home the gas hardware with his RC10GT. Look for a full race report in an upcoming issue of *RC Car Action*.



## SITE SEEING



[www.formula1-rc.com](http://www.formula1-rc.com)

Oahu Racing in Oahu, HI, has been running F1s since the '90s and has an excellent website about the program and the cars. They also have very detailed rules that are a good basis for any spec class.

## BOARD WALK

FROM THE  
RADIOCONTROLZONE  
.COM BULLETIN BOARD

### Ni-Cd Charger

**NITRO POWER RDB**  
I want a 6V receiver battery and Ni-Cds for my transmitter, but I can't find a reasonably priced charger. Any recommendations?

**MRC**  
Superbrain 959; it's only 50 bucks, and it charges Ni-Cd and NiMH, has AC/DC operation, charges 1 to 8 cells and includes an LCD display that shows a bunch of important info.

### Sprint Car/Late Model Forum

I have an RC10GT truck and want to put a late model body on it; where do I get late model bodies?

**Bolink and Custom Works** both make late model bodies. Check out their websites.

### O.S. .21 engines: 21RZ-V99 vs. 21RZ-V01B

I was wondering if anyone knew the difference between these engines. I have the V01B, and there doesn't seem to be much on the O.S. website about it.

I have both engines as well, and according to the parts list, only the piston and sleeves are different. As far as performance differences go, it seems like the V01B has "slightly" better midrange and "slightly" better fuel mileage. That's really about it; lucky for us, O.S. realized it hit on something good w/the V99B and didn't try to "reinvent the wheel" with a new model.

**BE HEARD!**  
LOG ON AT WWW.  
RADIOCONTROLZONE.COM

## Team Losi Sweeps World Cup

This year's NORRCA Truck World Cup—one of the largest annual truck gatherings—ended with Team Losi sitting on top of the pile after sweeping the three classes that were run. The Modified class was all Adam Drake as he drove his Trinity-powered Team Losi Triple-XT to the top qualifier spot and then battled with fellow Triple-XT driver Ryan Cavaleri to take the coveted win. Stock was another Triple-XT sweep as local racer Joe Piliars took the TQ position. The main event saw Triple-XT drivers Travis Amezcua, Joe Piliars and Doug Scripture finish 1-2-3. In Nitro truck, Adam Drake set a blistering pace throughout qualifying with his Picco-powered Triple-XNT. In the main event, Adam and fellow Triple-XNT drivers Ryan Cavaleri and Matt Francis drove away from the field as they battled for the top spot. Amazingly, Adam, Ryan and Matt finished on the same lap after 45 minutes of full-bore nitro racing!

### FACTORY MODIFIED ELECTRIC

- |                   |                         |
|-------------------|-------------------------|
| 1 Adam Drake (TQ) | Team Losi Triple-XT MFE |
| 2 Ryan Cavaleri   | Team Losi Triple-XT MFE |
| 3 Jared Tebo      | Associated FTT3         |

### STOCK ELECTRIC

- |                    |                         |
|--------------------|-------------------------|
| 1 Travis Amezcua   | Team Losi Triple-XT MFE |
| 2 Joe Piliars (TQ) | Team Losi Triple-XT MFE |
| 3 Doug Scripture   | Team Losi Triple-XT     |

### NITRO TRUCK (45-MINUTE MAIN)

- |                   |                      |
|-------------------|----------------------|
| 1 Adam Drake (TQ) | Team Losi Triple-XNT |
| 2 Ryan Cavaleri   | Team Losi Triple-XNT |
| 3 Matt Francis    | Team Losi Triple-XNT |



## Matt Francis: Babe Magnet

If you believe Trinity's latest "Matt Francis RC" ad (see page 12), Matt is indeed a certified babe attractor. Since achieving that milestone, Matt has decided to continue his studies in hopes of earning a teaching degree in Babe Magnetizing, and he will soon be offering classes in the art; ladies welcome.



## IFMAR Worlds update

The new dates for the 2001 Off-Road Worlds in Pretoria, South Africa, are May 19 to 26, 2002—just before the 2002 Electric On-Road Worlds. IFMAR plans to hold the Worlds events back to back, making this the most ambitious Worlds to date. It's not certain at presstime exactly who the major teams will send, but you can count on all the big-name drivers being there. One thing is for sure: the hotel bills will be gi-normous.

OFF  
CAMBER

**5 THINGS WE WOULD LIKE TO SEE IN RACING** 1. Motocross-style starts. IFMAR starts are boring to watch. 2. More hacking. Clean racing? We want carnage! 3. Supermodel turn marshals. Enough said. 4. Tenth place gets the crap beat out of him by the other nine drivers. Makes the race for last place a little more interesting. 5. Half the field should run in the opposite direction. TCR Jam Car for life!



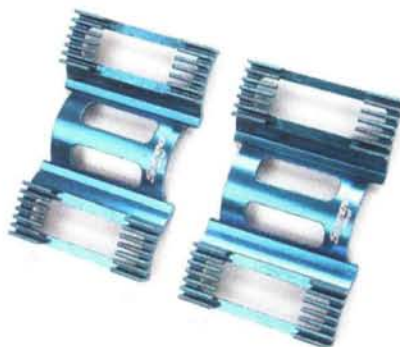
## SPEED SHOP

### SPEEDMIND

#### Battery heat sink

If you're gearing your low-wind mod to the moon and dumping 3000mAh in 5 minutes, chances are your batteries are getting hot; egg-cookin' hot. Not good. SpeedMind's strap-on heat sinks can help; the aluminum 'sinks' have lots of fin area to dissipate heat, lend extra support to your cells, and they just look cool (no pun intended). The heat sinks are sold in pairs and come in three colors: blue, purple and black.

Saddle-pack heat sink—item no. GW035BK (black), GW035B (blue), GW035P (purple), \$18. SpeedMind; distributed by Magma Intl., (905) 886-1808; [www.magmarc.com](http://www.magmarc.com).



### TEAM ORION Micro Packs

Orion 5- and 6-cell, 1100mAh packs are custom fit for the HPI Micro RS4. The correct connector is prewired, and the punchier rechargeables are a big step up from alkalines. 6V micro pack—13010, \$38.99; 7.2V micro pack—13020, \$45.95.

Team Orion, (714) 694-2812; [www.team-orion.com](http://www.team-orion.com).

### LRP

#### Worlds Option Kit

This Quantum-series upgrade will help keep the Q cool in high-demand conditions. Special heat-transfer tape secures the included heat sink, and two capacitors help tailor the ESC's power output. The larger cap delivers more punch but slightly reduces run time. The smaller capacitor is a compromise between increased punch and run time.

Worlds option kit—82820, \$19.95.

LRP; distributed by Team Associated, (917) 714-9342; [www.teamassociated.com](http://www.teamassociated.com).



### TEAM LOSI

#### Short shocks and swaybars for Triple-XS

These new, shorter shocks are designed for use on high-traction surfaces. They effectively lower the car and retain proper travel and damping. Each part can be

purchased separately or as a complete pair of shocks with titanium-nitride-coated shafts for smoother operation and extended shaft life. Also available are a one-way front diff and front and rear swaybar kits.

.28-in. threaded shock set w/nitride shafts—A-5081, \$32; swaybar set (F/R)—A-4250/A-4251, \$9.

Team Losi, (909) 465-9728; [www.teamlosi.com](http://www.teamlosi.com).



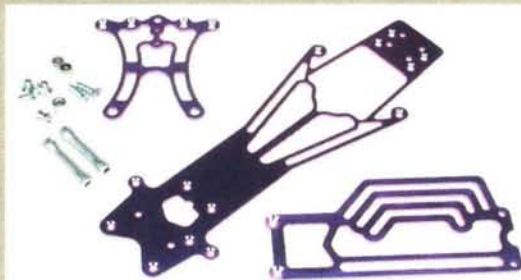
### HARDCORE RACING COMPONENTS

#### Titanium for HPI Micro RS4

The Micro is getting full factory support from the boys at Hardcore. They claim the new titanium chassis has been tested for months in an effort to get just the right amount of chassis flex. Hardcore also offers front and rear upper decks, a front hinge-pin brace and a motor plate. And as always, everything's available in four colors.

Chassis—HCR-0140, \$49; front upper deck—HCR-0141, \$34; rear upper deck—HCR-0142, \$32; hinge-pin brace—HCR-01413, \$34; motor mount—HCR-0144, \$28.

Hardcore Racing Components, (661) 294-5032; [www.racinghardcore.com](http://www.racinghardcore.com).



### TRINITY

#### Exhaust manifolds

Trinity's exhaust manifolds are specifically designed to fit all popular 1/10-scale touring cars. Two styles are available to fit either round port, rear-exhaust engines or standard side-exhaust engines. Both manifolds provide extra clearance and reduce the chance of the

side belt rubbing the manifold.

Manifolds (rear/side-exhaust)—RC8126/RC8127, \$29.99.

Trinity Products Inc., (732) 635-1600; [www.teamtrinity.com](http://www.teamtrinity.com).



## TRACK THREADS

### TRINITY Track Apron

Slobs wanted! Can't keep your shirt clean for more than five seconds through a nitro race? Don't worry; it happens to everyone—even RC Car Action editors. OK, especially RC Car Action editors. Trinity's track apron will keep you free of grease, grime, fuel residue, pizza sauce and anything else that would otherwise ruin your favorite "Star Wars" T-shirt and Toughskins. The Trinity Nitro Power logo is printed on the front, and large storage pockets keep your temp gun, glow plugs, glow starters, etc., handy.

Nitro apron—9791, \$29.99.

Trinity Products Inc., (732) 635-1600; [www.teamtrinity.com](http://www.teamtrinity.com).





## UNDER THE HOOD

### Rob Michael's Corally SP12G3

2001 ON-ROAD NATIONALS, STOCK CLASS WINNER  
SPEEDWORLD R/C, ROSEVILLE, CA

#### EQUIPMENT USED

Radio system: Airtronics M8  
Steering servo: Futaba S9602  
ESC: LRP Quantum  
Motor: handout

Gearing (pinion/spur): 25/100  
Tires (F&R): premounted Corally Silver  
Body: Protoform Nissan P35

#### SETUP

	FRONT	REAR
Caster	Reactive	Solid axle
Camber	1°	NA
Toe-in/out	0 to .5° out	NA
Ride height (mm)	3	3
Fluid	Rear damping pod	Corally soft damping syrup
Spring	1mm	NA

Also used: optional 2.1mm graphite chassis

—optional aluminum front beam

—optional rear roll-center adjustment kit

The SP12G3 doesn't use rear shocks for damping; it uses a damping disc with fluids of various viscosities to control pod movement.



The front wheels ride on spindles, and that means the entire axle spins on bearings. This also reduces the chance of your losing a bearing when you change wheels.



The Corally also has a unique hub setup. The outer ring with the two notches keys into the rim, and the result is nearly zero rim flex. The diff is adjusted by removing the wheels' snap-on plastic clips.



## LAST LAP

Do pro racers' equipment and setup choices influence you, or do you run whatever works for you?

It's always good to see what the pro's do and what they use; they are, after all, pro's! Sensible use of their expertise and kit choices can enable both newbies and veterans to improve their own setups. I think it is important, however, to be solid in your own choices of what works for you. Always keep an open mind and one eye on the latest issue of *RC Car Action*!

*Jerry Stockley-Young*

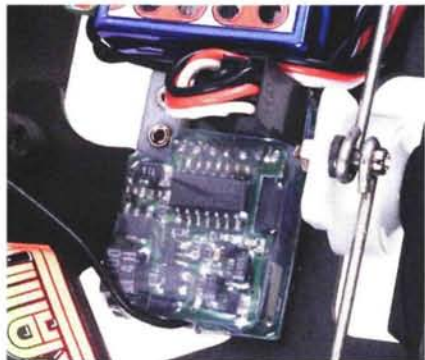
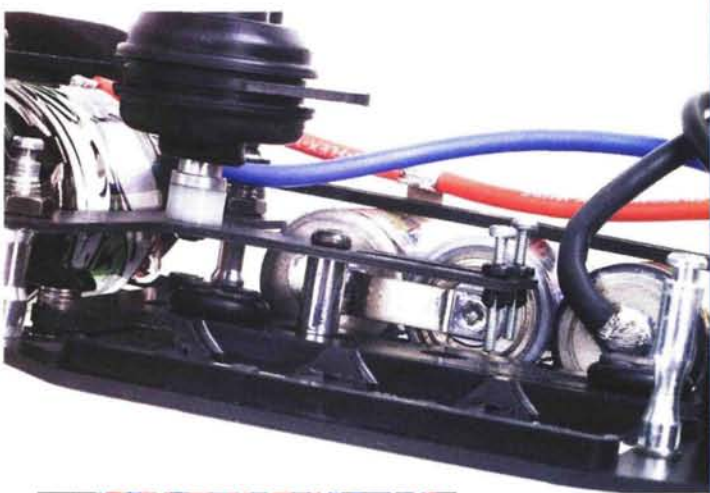
I buy whatever the pro's use. Alas, I can't pay rent.  
*Jon Moore*

I consider the setups the pro's use, but in the end, I use what works for my driving style. I like to see what the pro's are doing, as it helps me understand the characteristics of the car. Sometimes I notice trends in setups after I've looked at several of them. This helps me more than following a specific setup.

*Todd Shreve*

I run what works for me. What works in a national race doesn't necessarily work at my local track, nor does their setup always transfer to the club level. I start with the





Need to save weight? Remove the receiver case, and shrink-wrap it.

Here's a good look at the tweak screws for the rear pod. The screws control torsional flex of the T-plate and adjust chassis tweak. Also notice that the rear pod's ride height is adjustable by stacking washers.

setup recommended in the manual and experiment from there. Luckily, we have some experienced and helpful drivers, and we all share information.  
*John Hauser*

They influence me, but they don't fully dictate my setups. I understand that my preferences are different from some of the pro's, so I still use much of what works for me, and if something new comes up, I'll try it to see whether it will help me.  
*Bob Seay*

I'm not usually influenced by the pro's; I usually use what is in my price range and what I can get parts support for. But if I can't decide which one of the two or three parts is for me, I look at what the racers are running for feedback and advice. Mostly, I look to *RC Car Action's* reviews, though; they are the most helpful. You guys give us all the information we need.  
*Michael Vulgaris*

*Editors' note: suckup!*

# 5 QUESTIONS

**Driver:** Rob (Robbie) Michael



**AGE:** 30

**SPONSORS:** Team Corally, Corally USA, Winning Edge Designs

**LAST BIG WIN:** On-road 2001 Nationals; 1/12-scale Stock National Champion

**FAVORITE TRACK:** Minnreg R/C Club, Largo, FL

**FAVORITE SAYING:** "What?? ... rllllight"

**WHEN I'M NOT RACING/WORKING,** I: enjoy jet-skiing, mountain biking and hanging out with the ladies

**RC Car Action:** Good job winning the Stock Nationals. How did you feel when you heard the buzzer and crossed the line for the win?

**Rob Michael:** I had a great feeling of accomplishment. All the work and preparation making my racing cars just right and then being able to drive them to victory—what a rush!

**RCCA:** You won with the older version of the Corally SP12G3. How's the new car?

**RM:** The new car seems to have greatly improved tuning and handling and is much more stable than the previous SP12G3. I love the Corally 1/12-scale cars because they are very simple and easy to drive.

**RCCA:** You're a racer, you operate a hobby shop, and you're the Corally guy for the United States. Which job is hardest?

**RM:** That is a very good question! I love racing because I can focus on what I enjoy most. The hobby shop has been great but has taken a lot of hard work and effort to be successful—more so than people realize. I dread those late nights working to complete tasks before deadline! Being an exclusive importer is something I have always wanted to do, and it really has given me insight into the whole industry, from manufacturer to retail level.

**RCCA:** Most racers agree that 1/12-scale racing is fun, it's relatively inexpensive, and more than any other class, it helps build driving skills. Why isn't it huge, like off-road?

**RM:** I guess new racers enjoy off-road because being able to jump your car and roost some dirt seems more entertaining and appealing. Off-road racing is everywhere, whereas places to go on-road racing are limited. Off-road is a bit more versatile because you can run your car or truck in front of your house; a 1/12-scale car is for track use only. I originally started racing off-road myself. I didn't really start racing on-road till touring sedans hit the market back in 1995-'96.

**RCCA:** You also host a successful race program. What's the secret?

**RM:** A lot of factors are involved in holding a successful race program. First, a consistent racing program is very important. We set our dates in stone and don't change them. Racers become familiar with the schedule, and they know when to show up to race; it becomes routine. Second, we put in a huge effort to make our racing program a successful day—rain or shine. Having rain in the weather forecast doesn't stop the show. Third, we run a very tight, well-organized program. We cater to the racers to entertain them and make sure they have the most fun possible. We promote our races very well with flyers and on the Internet. Word of mouth has been the best source of promotion because happy racers always tell their friends or bring them to the next race.

## NEXT MONTH'S QUESTION

Nitro or electric; which do you prefer to race, and why?

Respond by clicking "Last Lap" at [www.rccaraction.com](http://www.rccaraction.com).



## J's Off-Road Supercross

Doin' it motocross-style! by Stephen Bess

**"This is the craziest thing I've ever seen!"** Twenty car A-mains and motocross-style qualifying caused more than a few spectators to utter these words at the 1st Annual J's Off-Road Supercross Race in Houston, TX. J's Action RC hosted the adrenaline-pumping, off-road event—the first of its kind—on its large, dirt-surface track. A large pit area, a two-story drivers' stand and a motocross-style starting gate contributed to a perfect environment for the more than 100 racers who took part in the new event. Factory drivers including Richard Saxton, Matt Francis and a handful of other fully sponsored drivers showed up for practice all day on Friday, with the races starting on Saturday.

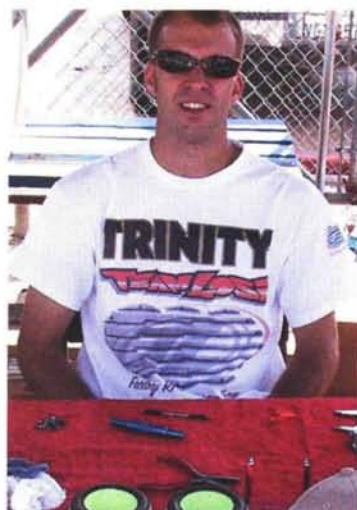


### MOTOCROSS QUALIFYING

The race consisted of three nitro classes (T-Maxx,  $\frac{1}{10}$  gas truck and  $\frac{1}{8}$  buggy), capped at 50 entries per class, with motocross-style qualifying procedures based on laps rather than on overall time. Five heats of 10 entries composed the first round in each class, and the first- and second-place winners from each 15-lap heat automatically advanced to the A-main. From that point, the field was narrowed down with three more rounds of heats, as well as a last-chance qualifier (LCQ), for a staggering total of 20 entries per A-main. In keeping with the motocross theme, the A-mains were 60 laps long (rather than the typical 30 or 60 minutes), while AMB's 20-car lap-counting system took care of the lap times.

### THE RACE

Local racers who had been looking forward to competing against some pro drivers finally got their shot. As expected, national champ Matt Francis and Richard Saxton battled it out for first place in  $\frac{1}{10}$  truck. Saxton took the early lead with his Associated GT but was eventually forced out of the race due to mechanical problems that allowed Francis to take the lead. At the 60-lap mark, Francis took the easy win in his Triple-XNT with a



If it seems as though Matt Francis is everywhere, you're right; he is. Matt attends as many races as he possibly can, and he's always available to lend a helping hand.



PHOTOS BY STEPHEN BESS/BRENT MONTGOMERY

smooth-as-silk driving performance.

By the time the  $\frac{1}{8}$  A-main rolled around, all eyes were on the track to witness 20 buggies racing at once. TQ Richard Saxton grabbed the holeshot with his O'Donnell-powered Kyosho 7.5 and never looked back as he blasted his way to first place after 60 laps. Local favorite Brent Montgomery provided some gut-wrenching battles with Saxton; he drove his Kyosho 7.5 to second place and was only  $1\frac{1}{2}$  laps behind "The King" after 60 laps. Third place went to OFNA-sponsored driver Steve Lambert.

The excitement, noise and smoke produced by 20  $\frac{1}{8}$ -scale buggies must be seen to be believed. Corner marshals spent as much time protecting themselves from the frenzy of buggies as they did marshaling; the roar of 20, .21-powered buggies got everyone worked up.

The 1st Annual J's Supercross Race was not only thrilling but groundbreaking as well, and all the racers appreciated the risks taken by J's to produce such a large event. You can be sure that next year's event will be even bigger and better. See you there! ■





Now  
Boarding for  
Japan!

TAMIYA

The Tamiya Championship Series (TCS) culminates at the North American Finals, which are held at the company's world-class track in Aliso Viejo, CA. The stakes are high! Drivers vie for a chance to win an all-expense-paid trip to Japan to compete against the top European and Japanese drivers for the coveted title of TCS World Champion. With four free tickets to Japan up for grabs (one ticket for each class), we knew the action would be intense. This was the scene at the 2001 Tamiya North American Finals.

by George M. Gonzalez

# CHAMPIONSHIP SERIES NATIONALS

## CLASSES & QUALIFYING FORMAT

The TCS is a series for Tamiya enthusiasts around the country and throughout the world, and there are four classes: GT-2, GT-1 Super Touring, Mini and F1.

■ **GT-2.** This is open to all TA-, TB- and TL-series tub-chassis cars with ROAR-legal, 24-degree stock motors. Tamiya factory hop-ups are allowed, but the vehicles must not be lightened or otherwise modified in any way.

■ **GT-1 Super Touring.** The TA04-Pro, TB Evolution and 414M are the stars here. With mod motors and high-performance battery packs, the excitement they generate is as high as you'll find at any sanctioned racing event.

■ **Mini.** Close racing is always fun and it's especially so in the Mini class because the cars must all use the stock silver-can Mabuchi motor.

■ **F1.** As you may have guessed, this class is reserved for Tamiya F-series Formula 1 and Indycars. Following TCS rules, the cars must be equipped with their stock Mabuchi motors included with the M-series cars.

Saturday saw four qualifying rounds, and the Mains were held on Sunday. Every driver's best qualifying time determined his qualifying order and grid position. A-main contestants faced triple A-mains and were awarded points according to their finishing order in each Main (first place—100 points; second—99 points; third—98; you get the idea). Every driver's worst finish was tossed out and used only to decide a tie. The highest score meant: next stop—Japan!

## THE CHOICE OF CHAMPIONS

The North American Finals allow only Tamiya vehicles. Tamiya offers many 4WD touring cars. Which were the most popular? In GT-1 Super Touring, the 414M and TA04-Pro led the field, but I spotted several drivers were running the TB-Evolution. In GT-2, the TA04R was the hot ticket because it's equipped with almost every hop-up option Tamiya offers, including a molded-carbon-fiber tub chassis. I don't think anyone competed with a bone-stock TA04.

The Mini class offered a mixed bag of M-chassis vehicles; most drivers preferred the rear-wheel-drive to the front wheel drive. Some M-chassis models have full-size sedan hoops, which were very popular because their larger diameter provided

higher top speeds. The slightly higher center of gravity made the cars a little "tipsy," but that made the class more fun to compete in—and hilarious to watch. F1 mostly comprised F103 chassis cars, although a few classic F101 and 102 vehicles ran very competitively.

## FINAL THOUGHTS

As expected, the 2001 North American Finals was absolutely spectacular. The gracious Tamiya staff pulled out all the stops to ensure that racers, guests and spectators were comfortable and entertained at all times. The track was awesome, the weather was perfect, and the race went off without a glitch.

We congratulate all the new crowned North American champions and wish them all good luck in Japan. See you all next year.



There were a few truly hot full-scale cars on display for all to drool over. The carbon-fiber-wrapped HKS Altezza was clearly the favorite, and the orange Toyota Supra from the movie, "The Fast and the Furious" was a close second. If I had to choose, I'd go for the Nissan Skyline GT-R in a heartbeat.







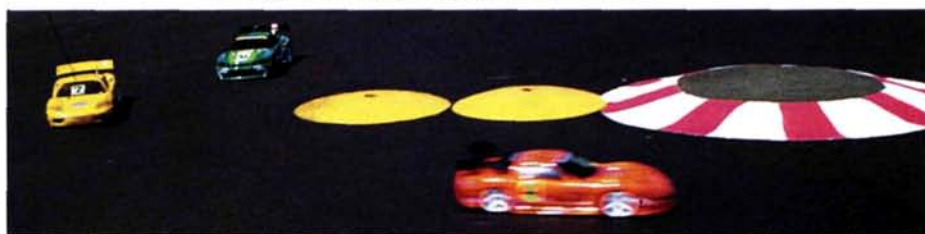
Above left: Robert Buenrostro's Honda minivan detailing is fantastic; the judges thought so, too, so Robert now has a beautiful concours trophy to display alongside it. Left: no, this isn't a full-size Ferrari 360; it's Thai Robinson's GT-2 Concours winner. It's all in the details, folks.



Left: Martin Crisp's GT-1-class-winning TA04R is bone stock, but it comes loaded with Tamiya hop-ups.



The TCS champions get their tickets to Japan. You know these guys are excited!



Above: Derek Hung's GT-2 winning 414M was on rails all weekend, and it earned Derek a trip to Japan, where he'll compete in the TCS World Finals. Below: apart from its tuned springs and urethane bumper, Erick Whippler's champion M04 Mini chassis looks stock. Erick wisely used slicks at the back to keep the rear end hooked up under power.



#### MINI MULTIPLE A-MAIN

						RESULTS	
Pos.	Driver	Total	1st	2nd	3rd	Laps	Time
1	Erick Whipper	200	100	100	0	30	10:16.33
2	Jesse Shapiro	198	98	97	100	44	15:30.61
3		198	99	96	99	44	15:30.18
4	Carl Feltro	195	97	98	97	43	15:25.68
5	John Brown	195	95	99	96	43	15:21.20

TQ: Erick Whipper

#### GT-1 MULTIPLE A-MAIN

Pos.	Driver	Total	1st	2nd	3rd	Laps	Time
1	Martin Crisp	200	100	100	99	55	15:35.55
2	Peter Robinson	198	98	94	100	53	15:01.36
3	Mark Rodne	197	99	92	98	50	14:24.79
4	Erik Paley	196	94	99	97	52	15:26.41
5	John Christiansen	195	97	98	93	51	15:30.25

TQ: Martin Crisp

#### GT-2 MULTIPLE A-MAIN

Pos.	Driver	Total	1st	2nd	3rd	Laps	Time
1	Derek Hung	200	100	100	97	50	15:09.05
2	Lee Passehl	199	99	99	100	51	15:13.66
3	Alex Hoover	196	98	96	98	49	15:12.92
4	Sam Hudson	196	97	94	99	50	15:30.66
5	Dan Pozel	193	95	97	96	49	15:23.71

TQ: Derek Hung

#### F-1 MULTIPLE A-MAIN

Pos.	Driver	Total	1st	2nd	3rd	Laps	Time
1	Chien-Hwa Chen	200	99	100	100	50	15:29.89
2	Gary Katzer	199	100	96	99	50	15:26.89
3	Ray Meek	197	98	99	98	51	15:43.06
4	Steve Williams	194	97	97	97	50	15:33.78
5		193	95	98	92	49	15:29.62

TQ: Chien-Hwa Chen



# A Clean Sweep for Losi—almost

PRO-LINE

# ENDLESS SUMMER

*Classic*

Nine-year-old Skyler Gall was the youngest racer. Notice his Off-Road Shootout T-shirt! It was autographed by Team Trinity/Team Losi drivers Matt Francis and Brian Kinwald. Not only was Skyler the youngest, but he and his dad traveled farthest—from Utah.



## Sportsman's perks

It certainly pays to compete in the Sportsman Class at this event: contestants were all given Reedy MVP stock motors and a complete set of Pro-Line tires plus Endless Summer Classic T-shirts and raffle tickets to win cool Pro-Line accessories. Wow! That's a lot of free stuff, and it more than made up for the entry fee. I like the idea of having handout motors and tires because it levels the playing field and makes racing more economical for those of us who are just getting started.





SPONSORED BY: PRO-LINE • REEDY • RADIO CONTROL CAR ACTION



Left: Robby Farmer and his dad, Robert, enjoy the hobby and are regulars at The Dirt RC Park in Hemet, CA. Robby finished fourth in the Sportsman Truck B-main. Not bad, Robby!

Below: 2WD Modified A-main (left to right): Joe Pillars (second), Adam Drake (first), Richey Tillis (third).



Left: Modified Truck A-main top three (left to right): Andrew Swanson (third), Todd Tanner (first), Adam Drake (second).

by George M. Gonzalez

**E**very year, Pro-Line sponsors several high-profile events to promote the hobby and give average racers a professional race they can enjoy.

The Endless Summer Classic is one such event, and it's held right in Pro-Line's own backyard (literally). Its former venue was the MnM Hobbies track, but it closed in 2000. Pro-Line's test track is next to the Pro-Line facility in Banning, CA.

Unfortunately, the event was scheduled for September 14 to 16, which, as you all know, was only a few days after the terrorist attacks. Though attendance was down, spirits were high, and the approximately 50 contestants should all have been awarded trophies for going on with their lives despite the tragic turn in world events. RC racing offers a great way to forget about our problems and have fun.





Held only a few days after the September 11 terrorist attacks, turnout was understandably lower than usual. These racers are truly dedicated!

## Popular Products

It's always fun to read through the lists of winners to see which products led the pack. Team Losi vehicles were most popular and took 19 of the top 30 A-main positions. Let's look at the dominant electronics: by an overwhelming number, the most popular transmitter was the Airtronics M8. The Novak Cyclone took "most popular ESC" award, and more racers used Trinity batteries and motors than any other brand.



Above: Todd Tanner's TQ and Modified Truck-winning Team Losi Triple-XT.



Above right: Team Losi factory driver Adam Drake's 2WD Mod Class-winning Triple-X.

## FINAL THOUGHTS

The Endless Summer Classic is dedicated to average racers, but pro drivers are known to show up and compete. Very few such drivers attended this time, though, probably because of the September 11 tragedies. But as usual, the Endless Summer Classic was fun and exciting. I take my hat off to all who attended; they're troopers. Everything went smoothly on this challenging track, and we congratulate all the Endless Summer Champions and thank Pro-Line for its continued support. Hope to see you all there in 2002. ■

### 2WD Sportsman

Fin	Qual	Driver	Chassis	Motor	Battery	ESC	Radio	Tires
1	1	Dave Lechner	Associated B3	Reedy handout	Reedy	Novak	JR	Pro-Line Handout
2	5	Jeff Haynes	Associated B3	Reedy handout	Pro-Match	Novak	Airtronics	Pro-Line Handout
3	7	Ryan Roberts	Losi Triple-X	Reedy handout	Team Orion	Keyence Zero	Airtronics M8	Pro-Line Handout
4	2	Earl Valles	Associated B3	Reedy handout	World Class	Novak Cyclone	Airtronics M8	Pro-Line Handout
5	0	Richey Tillis	Losi Triple-X	Reedy handout	Trinity	Novak	Airtronics M8	Pro-Line Handout

### RESULTS



### 2WD Stock

Fin.	Qual	Driver	Chassis	Motor	Battery	ESC	Radio	Tires
1	4	Jose Zayas	Losi Triple-X	Wimpy	Gonzo HV	LRP V7.1	JR R1	Losi
2	5	Kevin Waller	Losi Triple-X	Trinity P2K	Power Push	LRP V7.1	Airtronics M8	Losi/Pro-Line
3	2	Aaron Waldron	Losi Triple-X	Trinity P2K	Trinity	Novak	Airtronics M8	Losi
4	9	Frank Gomez	Associated B3	Reedy MVP	Reedy R3K	LRP	Airtronics M8	Pro-Line
5	1	Kurt Haynes	Associated B3	Reedy MVP	Pro-Match	Keyence	Airtronics M8	Pro-Line



### 2WD Modified

Fin.	Qual	Driver	Chassis	Motor	Battery	ESC	Radio	Tires
1	1	Adam Drake	Losi Triple-X	Trinity 13x2	Trinity	Novak Cyclone	Airtronics M8	Losi
2	2	Joe Pillars	Losi Triple-X	Peak 12x2	Peak	LRP	Airtronics M8	Losi
3	4	Richey Tillis	Losi Triple-X	Trinity D4 13x3	Trinity 3000HV	Novak	Airtronics M8	Losi/Pro-Line
4	3	Joshua Nelson	Losi Triple-X	Trinity 13x2	Perfect Match	Novak	Airtronics M8	Losi



### Sportsman Truck

Fin	Qual	Driver	Chassis	Motor	Battery	ESC	Radio	Tires
1	4	Jeff Barrett	Losi Triple-XT	Reedy handout	SMC	Novak Cyclone	Airtronics	Pro-Line Handout
2	1	Sean Alexander	Associated T3	Reedy handout	Trinity	Novak Cyclone	Hitec Lynx 3D	Pro-Line Handout
3	3	Earl Valles	Associated T3	Reedy handout	World Class	Novak Cyclone	Airtronics M8	Pro-Line Handout
4	5	Greg Kokot	Losi Triple-XT	Reedy handout	Reedy	LRP	Futaba 3PDF	Pro-Line Handout
5	7	Mike Kokot	Losi Triple-XT	Reedy handout	Integy	LRP	Airtronics 3PS	Pro-Line Handout

\*Handout



### Stock Truck

Fin.	Qual.	Driver	Chassis	Motor	Battery	ESC	Radio	Tires
1	1	Todd Tanner	Losi Triple-XT	Bonzai	GM	LRP V7.1	Airtronics M8	Losi/Pro-Line
2	2	Kurt Haynes	Associated T3	Reedy MVP	Pro-Match	Novak Cyclone	Airtronics M8	Pro-Line
3	5	Bill Hagen	Associated T3	Bonzai	Ballistic	Novak Cyclone	Airtronics M8	Pro-Line
4	4	Jose Zayas	Losi Triple-XT	Wimpy	Gonzo	LRP V7.1	JR R1	INS
5	5	Frank Gomez	Associated T3	Reedy MVP	Reedy 3000 SMH	LRP	Airtronics M8	Pro-Line



### Modified Truck

Fin.	Qual	Driver	Chassis	Motor	Battery	ESC	Radio	Tires
1	2	Todd Tanner	Losi	Bonzai	Team Orion	LRP V7.1	Airtronics M8	Losi/Pro-Line
2	3	Adam Drake	Losi Triple-XT	Trinity 11x2	Trinity 3000 SMH	Novak	Airtronics M8	Losi
3	4	Andrew Swanson	Losi Triple-XT	Team Orion	Team Orion	Novak	Airtronics M8	Losi
4	8	Robert Drew	Losi Triple-XT	Bonzai 13x5	Trinity 3000 SMH	Novak C2	Airtronics M8	Losi
5	6	Jose Zayas	Losi Triple-XT	Wimpy 12x2	Gonzo 3000HV	LRP v7.1	JR R1	Losi

\*INS = information not supplied





# Reedy Modifieds Ti

Reedy Ti's one on

by Derek Buono

If winning races is the best indicator of a motor-builder's prowess, then Mike Reedy is some kind of motor man. After all, more IFMAR World Championships have been won with Reedy power than all other brands combined. (Yes, the drivers have something to do with it, but c'mon—22 titles!)

Mike's latest model is the Ti, which debuted in double-winds and is now offered in single-wind versions as well. It only takes a look at the results sheets from a few big electric races to see what the Ti can do on the track; I'm going to find out what it does on the dyno.



## FEATURES

- Stronger C4 magnets.
- Black- and red-anodized brush heat sinks indicate polarity.
- New endbell design increases ventilation for greater cooling.
- Thicker, "Max-field" 1.4mm can for maximum magnetic-field strength.
- New armature creates a more intense magnetic field for increased torque and acceleration.
- Factory-equipped with 729 Quasar Touring Competition brushes.

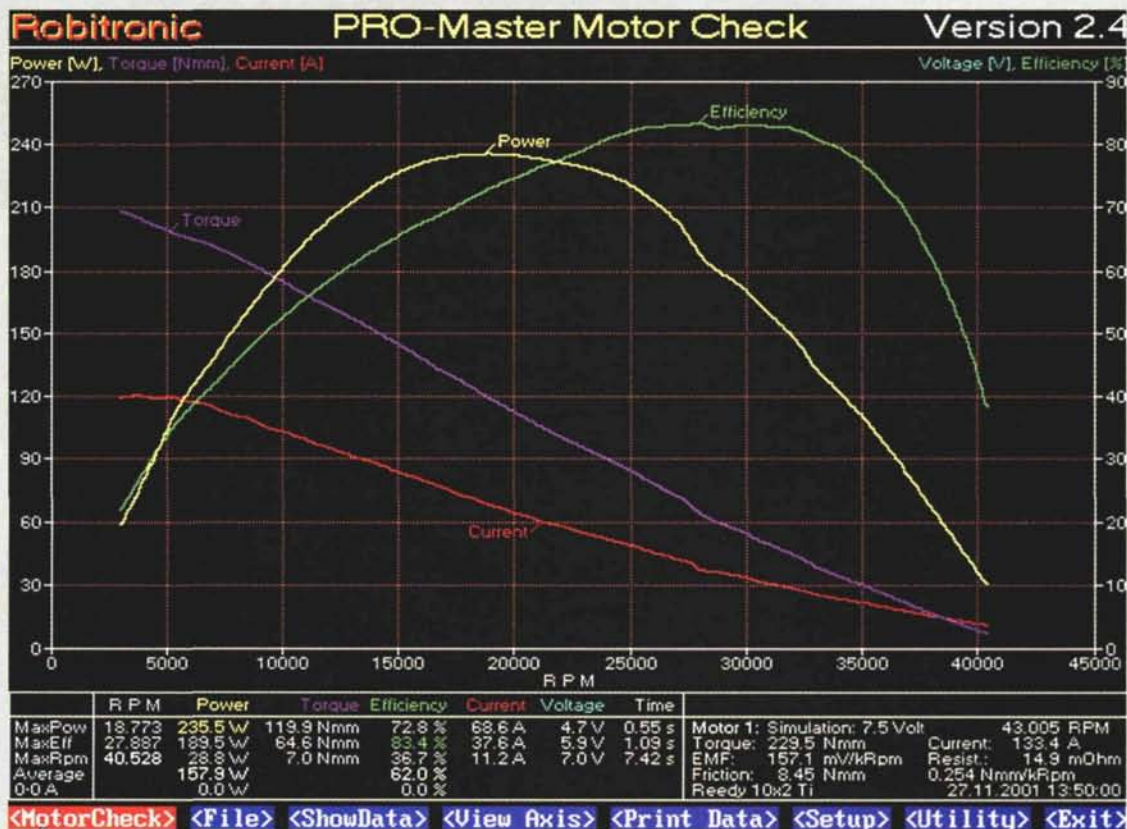
## DYNO DATA

### TEST RESULTS

Peak rpm: 40,528  
Peak power (watts): 235.5  
Peak torque (Nmm): 119.9  
Peak efficiency (%): 83.4

### TEST-SETUP SPECS

Wind: 10 double  
Brushes: 729 Quasar Touring Competition (included)  
Springs: copper (included)  
Comm diameter: 7.51mm  
Timing: 10 degrees (factory setting)





## DYNO TESTING

I tested a 10-double-wind Ti motor fresh from the package without tweaks. Although performance gains may be had by playing with the brushes, springs and timing, I expect a hand-wound mod to be dialed in at the factory. That's what you pay the extra cash for—a pretuned motor with the right brushes and timing.

The Ti cranked the flywheel up to an impressive 40,528rpm. Maximum torque was a beefy 119.9 Nmm and created 235.5 watts of power. The Ti also surprised me with 83.4 percent



## INSIDE THE TI

The Ti's new can is designed to keep temperatures down when things get hot. More important, its two-vent design creates a magnetic field that increases torque (the Fury series had a three-vent can that gave it more rpm).

The endbell has been redesigned with new ventilation openings and also features an improved brush-damping system to prevent the brushes from getting the jitters and affecting performance. Reedy explains that the



brush-damping system on the Fury series supported the brush only at the shunt

end, and that allowed the brush to tip forward toward the comm. The new brush-damping system supports almost the entire brush, and that will keep it truer to the comm.

Inside you get the latest C4 magnets (great for producing huge torque) and Mike's latest winds in either a double or a single configuration. Reedy claims the new-style armature—a 5mm lightweight blank—is designed for increased torque and quicker spool-up. That means your car gets a shot in the pants faster, with more cars staring at your taillights than passing you.

A high-quality set of Quasar Competition brushes is included with every Ti motor. Mike explained that he chose those brushes because they provide exceptional power and are very easy on the comm. He recommends that you clean them after every run and cut the comm after a few runs; he said the brushes will last for a few race weekends.

peak efficiency. This is all accomplished with the factory timing setting of 10 degrees. That means there is room to crank it up and get more power, but that extra juice really depends on the track conditions and batteries.

## THE VERDICT

Reedy designed the Ti series for touring-car racing, which typically requires high amp draw and needs extra low-end torque. Based on the dyno-test results, the Ti double-wind delivers exactly that type of performance. But the Ti

mods aren't just for touring cars; the series is well suited to any application that requires high-performance mod power. Pick the appropriate wind and bolt it in; there's no promise that you'll score a 23rd Worlds win for Mike Reedy, but there's a good chance you'll cut a few tenths off your best lap time. ■

## SOURCE GUIDE

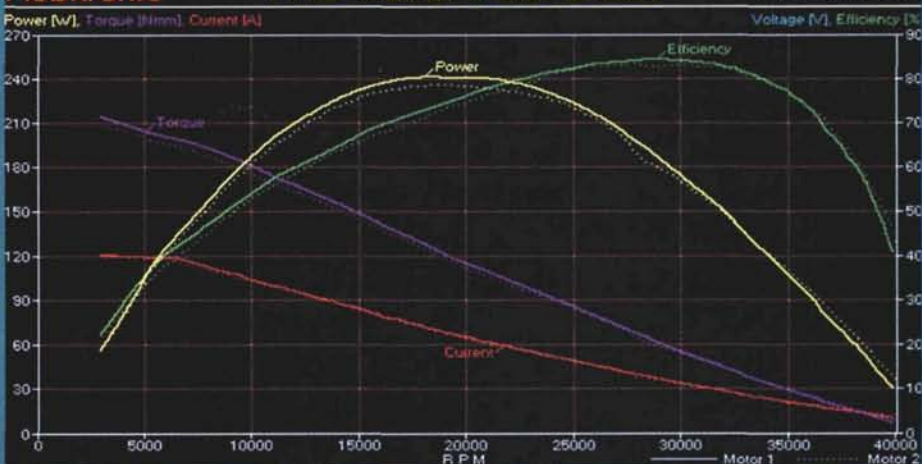
REEDY: a division of Team Associated, (714) 850-9342; [www.teamassociated.com](http://www.teamassociated.com).

ROBITRONICS: Distributed by Trinity Products; (732) 635-1600; [www.teamtrinity.com](http://www.teamtrinity.com).

## Livin' the single life

Single, double, quintuple, google .... There are lots of options to choose from when picking a wind. The Ti series simplifies it with two winds—double and single. After dyno'ing the 10-double Ti, I strapped a 10-single into the Robitronics Pro Master to see exactly what I would get if I chose to stay single (besides a messy apartment and a refrigerator that contains only condiments and leftover Chinese).

### Robitronic PRO-Master Motor Check Version 2.4



Motor 1: Simulation: 7.5 Volt	42,277 RPM
Torque: 235.6 Nmm	Current: 134.7 A
EMF: 160.5 mV/kRpm	Resist: 13.7 mOhm
Friction: 8.11 Nmm	0.213 Nmm/kRpm
Reedy 10x1 Ti Single	28.11 2001 14 27.13
Motor 2: Simulation: 7.5 Volt	43,006 RPM
Torque: 223.5 Nmm	Current: 133.4 A
EMF: 157.1 mV/kRpm	Resist: 14.9 mOhm
Friction: 8.45 Nmm	0.254 Nmm/kRpm
Reedy 10x2 Ti	27.11 2001 13 50.00

MotorCheck <File> <ShowData> <View Axis> <Print Data> <Setup> <Utility> <Exit>

Not much difference! The single had more torque—127.5 Nmm compared with the double's 119.9 Nmm—and its power was also slightly higher, edging the double's 235.5 watts by 5.7 watts for a total of 241.2. But the double won the spin contest with 40,528rpm; that was just slightly higher than the single's 39,906rpm. The efficiency of both motors was about the same.

Which should you choose—the double or the single? Consider the time to maximum rpm. The single spools up more quickly at 6.06 seconds to maximum rpm, while the double takes more than another second to reach maximum rpm, clocking in at 7.42 seconds. So why would you want a slower spool-up time? It's all about traction. Low-traction conditions favor less torque, and a longer spool-up means less torque. So if traction is low, you can put down power more easily with the milder power band of the double.





# 10 CHEAP MICRO

by George M. Gonzalez

Judging by the huge number of postings on the RCZone bulletin board ([www.radiocontrolzone.com](http://www.radiocontrolzone.com)), HPI's website "Forum" and other BB's, the  $\frac{1}{8}$ -scale Micro RS4 is one of the hottest RC topics on the Internet, and many tracks across the country have started Micro RS4 racing classes. I've done all the surfing for you and compiled details on the most effective, inexpensive Micro mods I could find, and I've added a few exclusive G-man mods. All are cheap, and depending on how well-stocked your "junk box" is, many will be free! If you own a Micro RS4, you'd better read this article, or your buddies will whup your butt the next time you race.

## 1 LOWER IT

If you race your Micro primarily on smooth carpet, lowering its ride height will improve its handling and provide quicker steering response; do this by installing spacers or washers over the nine flat-head self-tapping screws that secure the front suspension and rear axle assemblies to the chassis.

Apply thick grease under the screw heads to temporarily hold the screws and washers on the chassis while you install the front suspension and rear axle assemblies. Washer thickness determines the vehicle's ride height, so be sure that all the washers you use are of the same thickness, or you'll end up with a tweaked chassis. Lowering the ride height 0.05mm makes a noticeable difference in handling.

Cost: 50 cents



## 4 RIGID REAR BODY POSTS

The Micro RS4's rear body posts wobble quite a bit, and that can cause the rear of the body to move around enough to rub against the rear tires—especially if you have the body slammed on the chassis. To make the rear body posts more rigid, simply install two O-rings over each one, sliding them all the way to the bottom of the posts. Next, secure the O-rings tightly with body clips—no more wobble.

Cost: free



## 2

### LOWER THE ELECTRONICS FOR A LOWER CENTER OF GRAVITY

If you tape the battery pack directly onto the lower chassis plate and use a microservo instead of a standard servo, your car will have the necessary clearance to allow you to lower the upper deck by as much as 4mm.

Considering that most racers mount the ESC and receiver on the top deck, this mod will lower the vehicle's center of gravity (CG) considerably for improved handling. Simply install spacers over the 2.6x8mm screws that secure the front upper arm mount and the rear body-post/antenna mount to the upper deck as shown. You'll need four 2- to 4mm-thick spacers for this mod. If you lower the upper deck more than 2mm, you'll need to use longer, 2.6x10mm, self-tapping screws to mount the top deck securely.

Cost: 99 cents



## 3 LIGHTER, SLEEKER UPPER DECK

Because of the Micro RS4's size, every gram removed from the chassis will make a huge difference to acceleration and overall performance. If you mount the battery pack directly on the lower chassis plate, you'll reduce weight by more than 5 grams because you won't have to use the 4-cell battery holder or the optional battery-pack mount. This mod will shave off a couple more grams and also make the top deck look trick. Remove the excess material from the upper deck as shown. Cut the material off with Lexan scissors, and then sand the edges smooth with a file or a belt sander. Keep in mind, however, that you won't be able to use the 4-cell battery holder or the optional battery-pack mount after you've made this modification.

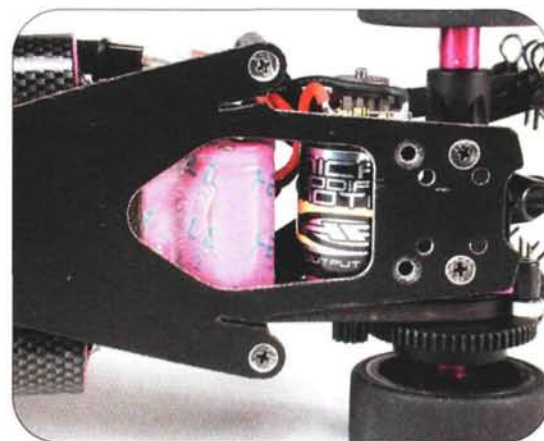
Cost: free



## 5 MORE FLEX EQUALS MORE TRACTION

Cutting 4mm-long slots on the chassis, as shown in the photo, will make the rear end more flexible, and that will provide more rear traction. This is a great mod for racing on slippery outdoor tracks. Cut the slots with a scroll saw, a hacksaw, or a Dremel tool and cutoff wheel. Disassembling the car down to the bare chassis will make the job much easier. Be sure to cut all the slots exactly the same length, or you may end up with a tweaked chassis. This modification can make the car understeer on high-traction surfaces, so consider all your options before you make this modification.

Cost: free



PHOTOS BY GEORGE M. GONZALEZ



# RS4 MODS

## 6 PUT A BEARING IN THE DIFF

The molded bushing that's seated in the right rear wheel hub must spin on the axle without resistance, or the differential won't function properly. The bushing must always be well lubricated and checked often to ensure proper performance. Without constant maintenance, the bushing will "stick" to the rear axle and cause the left rear wheel to spin faster than the right one, and this will cause the car to torque steer during hard acceleration or spin out in the corners. Overtightening the locknut that holds the wheel hub on the diff assembly causes it to bind with the bushing, and that also fouls up diff operation.

Installing a 3x8x3mm ball bearing in the right wheel hub will ensure consistent diff action without requiring constant maintenance and will allow you to set the diff more tightly. To ensure proper bearing operation, you'll need to slide a 3mm beveled washer over the axle (with the beveled side facing the bearing) in front of the locknut to prevent it from binding against the ball bearing's inner race. If you can't find a washer of the right size, threading the locknut backwards onto the axle (nylon portion first) will position the locknut's beveled side against the ball race, and this also works to prevent the bearing from binding. The only problem with this method is that you have to check the locknut after every run and tighten it when necessary to ensure proper diff action. With the bearing in place, you'll be able to tighten the diff to prevent the right rear wheel from wobbling and slow down the diff action to improve cornering.

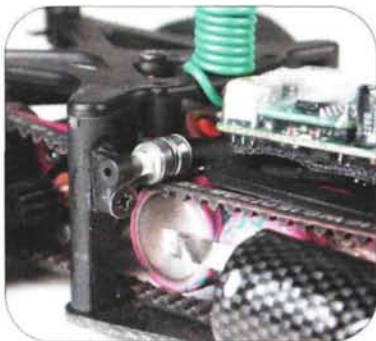
Cost: \$8



## 7 BUILD-IT-YOURSELF BELT TENSIONER

To make a belt tensioner like the one shown here, you'll need:

- Micro RS4 belt-guide mount (HPI item no. 73407-6)
- Two Tamiya Mini 4WD ball bearings (Tamiya item no. 15111)
- One 1.5x10mm machine screw
- One 2.6x8mm flat-head self-tapping screw
- Three 1.5x 3mm washers
- One 1.5x2mm spacer



Start by measuring 11mm from the top of the right chassis post and mark the spot with a felt-tip pen. At the mark, drill a hole through the post with a 5/64-inch drill bit. Slide a washer over the 1.5x10mm machine screw, and follow this with a ball bearing, another washer, another ball bearing, another washer and, finally, a 1.5x2mm spacer. Thread the 1.5x10mm machine screw—with the bearings, washers and spacer attached—to the belt-guide mount, and then secure the belt-guide mount to the chassis post with a 2.6x8mm flat-head self-tapping screw.

Cost: \$5

## 8 STEERING ENHANCER

You can gain a little extra steering travel by trimming the steering stops off the front steering knuckles. Use a pair of sharp side cutters to remove the stops, or grind them off with a Dremel tool and a tapered sanding bit. Your steering servo must not bind up the front suspension or this mod will not be effective.

Cost: free



## 9 CUT YOUR LOSSES

The stock battery and motor connectors are rated at around 1 amp to handle the voltage requirements of a typical 4-cell (4.8V) Ni-Cd or NiMH battery pack and a stock or mild modified motor. With this in mind, consider hard-wiring your motor and installing high-performance battery connectors when you use a 5- or 6-cell battery pack with low-wind modified motors. The small low-loss Deans connectors shown in the photo are light. If your ESC's wire posts are replaceable, replace the thick motor wires with thin (18- or 20-gauge wire) to reduce weight.

Cost: \$12

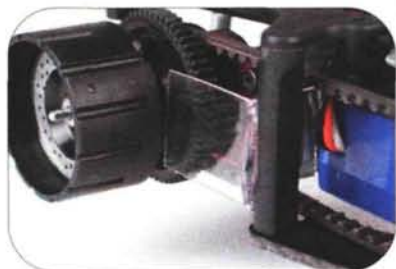


## 10 EASY GEAR PROTECTOR

The Micro RS4's rear belt pulley and pinion and spur gear are easily damaged or bound up when driving on dusty, dirty, parking-lot tracks because the gears are very small and they aren't protected. A scrap of Lexan can act as a shield to protect the gears from debris. Simply cut a 15x25mm rectangle from a scrap of Lexan, and then

bend it at a right angle. Next, mount your gear protector on the right chassis post, as shown in the photo, using double-sided tape or Shoe-Goo.

Cost: free ■



### SOURCE GUIDE

HPI RACING (949) 753-1099; [www.hpiracing.com](http://www.hpiracing.com).

TAMIYA 1-800-TAMIYA-A; [www.tamiya.com](http://www.tamiya.com).

DEANS (714) 828-6494; [www.wsdeans.com](http://www.wsdeans.com).



# Snow-proof your car

by Derek Buono

## Doin' it in the snow

**J**ust as you wouldn't take a shower with a hair dryer or hop in the tub with a George Foreman grill, you wouldn't run your RC car through water or snow because electricity and water don't mix, right? Right; but what the heck are you going to do all winter? You can only rebuild the shocks and clean the chassis so many times. It's time to take back the winter and run your car or truck no matter what the weather conditions are. Here's how to make your RC gear practically water-proof and snow-proof.

### RECEIVER

Protecting the receiver is easy, especially if your vehicle has an enclosed radio box. All you have to do is seal the box with silicone caulk, and the water won't be able to get in. Seal the open side of the box against the chassis, and also squirt a blob of sealant into the opening for the servo leads, so the leads are sealed into the box.

If the receiver isn't enclosed in some sort of compartment, you must wrap it in a protective covering. Using a balloon is the easiest way to protect the receiver from moisture. With the servo leads plugged into the receiver, stretch a balloon over the receiver so it is fully covered and the leads emerge from its neck. To seal the neck, zip-tie the balloon tightly around the leads close to the receiver. Then pack some grease into the open neck, and add another zip-tie near the top of the neck to seal in the pocket of grease. You can substitute silicone for the grease, but it will be more difficult to unseal the receiver come springtime.



**Bagging the receiver in a balloon will provide excellent protection for it.**



**Because oil and water don't mix, a blob of grease in the neck of the balloon makes a watertight seal.**



**If your nitro vehicle sports a receiver box, it's easy to seal it with some silicone sealant.**

## Warning!

You will most likely void all warranties on your electronics by running them in snow, rain, or wet conditions. The steps described in this article do not guarantee that your electronic gear will not be harmed while being operated in snow or wet conditions. *RC Car Action* is not responsible for any damage that may occur owing to the modification of electronic items or their use in snow or wet conditions. Continue at your own risk!



**Trinity's new receiver box for the RC10GT can be easily waterproofed and retrofitted to other vehicles. It's sized for micro-receivers.**

### ELECTRONIC SPEED CONTROL—ESC

This is potentially the most difficult electronic item to protect; in addition to hating moisture more than Indiana Jones hates snakes, ESCs can get very warm and therefore can't just be wrapped in a balloon. Buy a "project box" at RadioShack that will enclose the ESC, or find a household plastic food container that can be sealed to house it. (I sense the imminent theft of perfectly good Tupperware from the kitchen cabinet.) You'll need to drill a hole for the servo leads to exit the box; make sure there's some air space for the ESC's heat sinks, and seal everything well. If you're thinking "I dunno; that sounds like a lot of work"; you're right, it is. Here's a better idea: remember that



mechanical speed control you took out of your first RC kit? That's the perfect winter replacement for your ESC. You can use the balloon technique with the mechanical controller, and you won't have to worry about frying your ESC. You say you don't have a mechanical speed control? Your local hobby shop will probably sell you one—cheap.

## SERVOs

Some servos are sold watertight from the factory; if there's a glob of sealant on the wire-harness/servo-case junction and teeny O-rings on the servo-case screws, it's sealed.

To reduce the chance of moisture entering the servo case, most servos already have a rubber gasket between the case halves. Unscrew the screws holding the servo-case halves together. Just loosen them; you don't need to take the two completely apart. Apply a bead of sealant around the upper and lower sections of the servo case and put a dab on the wire harness where it exits it. Squeeze the case halves back together, and put a dab of sealant on each screw before you sock them down. Allow the sealant to dry, and the servo is ready for duty.



One way to be certain your ESC isn't harmed by snow or water is to not install it! Use a mechanical unit instead.



In cold weather, heat up the engine before you try to start it. If you are out in the field, use the heat from your car's engine or defroster.

## Don't start an ice-cold engine.

Ever heard of a cold-weather package option for full-size cars? This option usually includes a heater for the engine block to make cold-weather starting easier (and sometimes, there are also butt-warmers in the seats—nice).

Although not an option on nitro cars, the principle of warming an engine before starting it is good for RC cars, too. Starting a very cold (as in left-out-in-the-garage-all-night) engine can be very

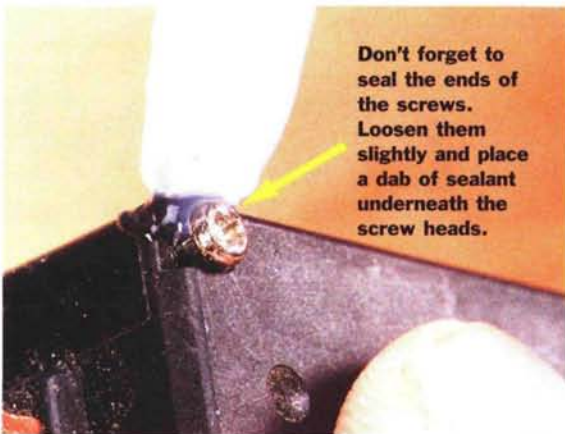
harmful; the coldness of the metal can put extra stress on rods and pistons and could break them. Before trying to start an engine, it's important to heat it with a hair dryer or a heat gun. This allows the metal to expand, and it gets the engine closer to an appropriate starting temperature. You should also be careful to properly cool the engine after a run; fast cooling from a 220-degree operating temperature to a frigid ambient temperature may distort the piston and sleeve and cause a loss in performance. Once you have finished running your car for the day, get it indoors where it can cool off at a more reasonable pace.

## Don't forget to seal the ends of the screws.

If moisture does infiltrate your electronics, it will usually cause them to glitch or shut down. At the first sign of such a malfunction, stop the car! If you don't, you may have a runaway vehicle on your hands, or something may go "poof." Unplug the battery immediately, and get the car indoors to dry. In most cases, you can just let the car sit in a dry room for 24 hours, and all the moisture will simply evaporate. If you want to get right back out to the snow, open the case of the servo, receiver, or ESC, and use a hairdryer to dry out the internals. Electronics-safe spray cleaner can also be used to displace the water from the electronics.



Some servos are sealed, but a little extra protection can't hurt.



Don't forget to seal the ends of the screws. Loosen them slightly and place a dab of sealant underneath the screw heads.

Running wet presents a small, technical challenge, but with proper preparation, it can be a whole new driving challenge. If you follow these steps and use some common sense, even a blizzard won't stop you from a full day of running your car. And if you're looking to get out of shoveling the driveway, who says you can't make a snow plow for your T-Maxx? ■

# WET-RUNNING TIPS

## Don't drive it hard and put it away wet.

As soon as you have finished running, you should be thinking about drying the vehicle. If you have an air compressor, blow all the water off the parts and clean out any dirt that's wedged into the cracks. It's a good idea to spray WD-40 on the car to prevent metal parts from rusting and to keep moving parts moving. WD-40 will also displace water. Be sure to keep an eye on the bearings; take them out after every couple of runs, give them a good cleaning and relube them. If you run nitro, clean and re-oil the air filter often. Motor Saver makes a special filter that has a water/mud guard built in and helps keep water out of the engine.

## Don't start an ice-cold engine.

Ever heard of a cold-weather package option for full-size cars? This option usually includes a heater for the engine block to make cold-weather starting easier (and sometimes, there are also butt-warmers in the seats—nice).

Although not an option on nitro cars, the principle of warming an engine before starting it is good for RC cars, too. Starting a very cold (as in left-out-in-the-garage-all-night) engine can be very

harmful; the coldness of the metal can put extra stress on rods and pistons and could break them. Before trying to start an engine, it's important to heat it with a hair dryer or a heat gun. This allows the metal to expand, and it gets the engine closer to an appropriate starting temperature. You should also be careful to properly cool the engine after a run; fast cooling from a 220-degree operating temperature to a frigid ambient temperature may distort the piston and sleeve and cause a loss in performance. Once you have finished running your car for the day, get it indoors where it can cool off at a more reasonable pace.

## Don't forget to seal the ends of the screws.

If moisture does infiltrate your electronics, it will usually cause them to glitch or shut down. At the first sign of such a malfunction, stop the car! If you don't, you may have a runaway vehicle on your hands, or something may go "poof." Unplug the battery immediately, and get the car indoors to dry. In most cases, you can just let the car sit in a dry room for 24 hours, and all the moisture will simply evaporate. If you want to get right back out to the snow, open the case of the servo, receiver, or ESC, and use a hairdryer to dry out the internals. Electronics-safe spray cleaner can also be used to displace the water from the electronics.







THE TRUCK STOPS HERE

## Tuning and modifying the OFNA Monster Pirate

**O**FNA's Monster Pirate (MP) is currently the king of .21-powered monster trucks, and its popularity has only grown since OFNA made the big truck available RTR. The Pirate can crush 'em all straight from the box, but with a few mods, its go-fast performance and overall durability can be increased significantly. Here's how to make the most of your MP.



### SWITCH TO LIGHTER TIRES AND WHEELS

The enormous lugged tires are one reason why the MP is so popular, but they're a performance liability, as their weight seriously affects the truck's acceleration and handling. The tire mass slows the steering and greatly strains the drive train, clutch and engine; plus, hit something hard with the tires, and you can kiss your suspension goodbye. Enhance your MP's performance by leaps and bounds just by changing to a lighter set of tires. I bolted on a set of OFNA new MT3 splits wheels and Monster Race tires on



These new OFNA tires and rims for the MP are great. They are much lighter and slightly smaller than the stock meats, and they really enhance the truck's performance.



The body that comes with the MP is not the greatest-looking body in the world. I topped off my MP with this sweet GMC body from Pro-Line. A great performing truck should look good, too, right?



my MP. They weigh 5.6 ounces less than the stock meats, so I was able to shave 22.4 ounces of rotating mass just by replacing tires!

#### INSTALL TURNBUCKLE LINKS

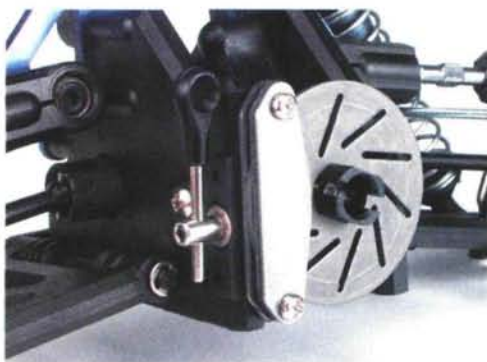
The MP doesn't have adjustable turnbuckles. So, to adjust the rear camber and front toe, you must take off the tire, then remove one end of a link and give it a few twists, replace the link and tire and recheck the camber or toe—what a pain! I replaced the rear camber links and front steering links with strong, lightweight Ti turnbuckles from Lunsford. Now

I can quickly adjust rear camber and front toe with a quick twist of a wrench. The camber links on the front of the truck cannot be replaced with an adjustable turnbuckle because the space between the ball end and the suspension arm is too narrow.

Want more speed out of your MP? Try installing this 2-speed tranny. This fingertype tranny is adjustable and comes assembled with plastic gears. I beefed up the unit with optional steel gears from OFNA.







I knew the 2-speed tranny would make my big heavy MP much faster, and slowing it down would be an experience. I settled my nerves by adding this optional rear brake kit to my project truck.

#### SEAL THE ENGINE

The MP RTR comes with an OFNA Hyper .21 pull-start engine that has plenty of power, but you can make it more reliable by taking it apart and sealing it with O<sub>2</sub>-safe gasket sealant. Sealing the engine prevents air leaks that can cause all kinds of trouble. Remove the engine from the truck and take off the header, clutch and flywheel. Thoroughly clean the engine with nitro cleaner to remove any dirt on its surface. Disassemble the engine on a clean towel and seal the backplate, the banjo fitting on the carb and the carb. Use just enough sealant to keep air out of the engine; don't overdo it.

#### INSTALL A 2-SPEED TRANSMISSION

Everyone loves speed, but monster trucks must usually sacrifice top speed in favor of the low-end grunt required to move their big tires. To get top-end speed and low-end torque, I installed OFNA's optional 2-speed transmission. It replaces the stock center gear

and diff spool and comes with a 52/56-center gear combo, a finger-type clutch and a 15/11 clutch bell. First gear allows the MP to rip off the line, and second gear gets it up to warp speed. Tightening or loosening the screw that tensions the spring for the finger clutch adjusts the shift point to the desired rpm. I beefed up the unit by installing a set of OFNA 48/52 gears that are machined from solid-steel round stock.

#### BRAKE BEEFER-UPPER

The stock MP has a single vented-steel disc brake that does a decent job of slowing down the heavy truck. However, after installing the 2-speed, I knew the truck would be much faster—meaning the brake would have to work overtime. I solved the brake problem by adding OFNA's rear-brake installation kit. There's no room to add a second disc and calipers on the center diff because the fuel tank is in the way, so the rear brake kit includes hardware to mount a

second disc and a set of calipers to the rear bulkhead. A third linkage connects the throttle/brake servo to the rear brake. The Monster Pirate doesn't have a center diff, so the front and rear brake bias can't be adjusted, but now you can adjust how hard or soft the brakes are. For hard braking, set the brakes so they both grab at the same time; for soft or gradual braking, set the rear brake to come in just after the front brake.

#### DITCH THE DOGBONES

The MP uses dogbones to drive the rear wheels, so upgrading to universals is wise. Dogbones can easily be ejected from the truck if you pop off a link or tweak the suspension too much; good luck trying to find the bone after a crash. If a universal comes out of the drive cup, the other end remains attached to the outer hub. Universals also last longer than dogbones and don't bind as much. Considering

all those benefits, I replaced all the dogbones in my MP with universals from OFNA.

#### FINISHING TOUCHES

A truck that performs well should look good, right? I test-fitted a few bodies on the MP and went with the GMC Sierra LP body from Pro-Line; it's meant for the T-Maxx, but it's also a perfect match for the MP. I sent the body to my buddy Dave Pack of Trick RC Paintworks to lay down some color. Now my MP looks fast just sitting on the workbench.



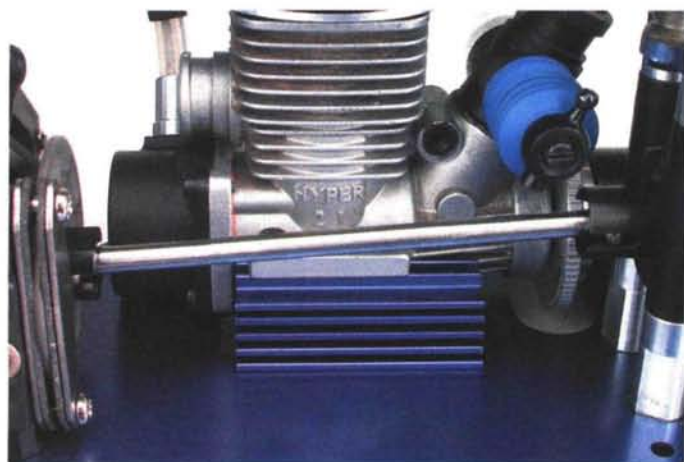
## TRICK TRUCK STUFF

### Hardcore Racing Components HPI Nitro MT Ti chassis

The HPI Nitro MT is becoming very popular, and many people who own this truck just beat the living daylight out of it. The stock truck's chassis is made of stamped aluminum that may bend if it takes a hard hit. Set your mind at ease by replacing it with a Hardcore Racing Components chassis. Made out of a thick piece of super-strong titanium, it features countersunk holes and is available in blue, green, purple and silver. Nitro MT titanium chassis? HCR-0130, \$115.



The stock center dogbones need to be very long to reach the front and rear gearboxes from the center diff. The longer the dogbone is, the easier it is to bend. I replaced the stock bones with super-strong titanium bones from Unlimited Engineering.



## PARTS LIST

### OFNA

- 2-speed transmission, Monster Pirate-18990, \$139.95
- Spur-gear set, steel, 48/52-18911, \$59.95
- Rear-brake installation kit-18956, \$24.95
- MT3 splits wheels-81155, \$19.95 pack of 4
- Monster Race tires-81156, \$19.95 pack of 2
- Universal drive shafts-18081, \$41.95

### Pro-Line

- GMC Sierra LP body-3124-00, \$26

### Unlimited Engineering

- Ti center bones-UNL-DS-TI-MP, \$45



**Q** My Traxxas T-Maxx runs horribly slowly, and I can't figure out the problem. All my friends have T-Maxx trucks that run great. I have the same engine but just can't seem to get the same performance out of it. I thought it was the clutch and I replaced it, but that wasn't the problem. I

peg the gas, and the truck runs as though it's at  $\frac{1}{4}$  throttle, and it takes a few seconds to come to life. Why does my truck do this? [email]

Richard Stern

**A** It sounds as though your low-speed needle is set too rich. The carburetors for that truck are set

If you have any problems or questions about trucks, or if there is something you would like to see in "4x4," email me at [kevinh@airage.com](mailto:kevinh@airage.com) or send your letters to:

"4x4"  
RC Car Action  
100 East Ridge  
Ridgefield, CT 06877-4606 USA

to a ballpark setting at the factory. That setting may be too rich or too lean, depending on atmospheric conditions and how much your engine has run, and it will affect your truck's performance. If the setting is too rich, adjust the low-speed needle to lean out the air/fuel mixture that enters the engine. On just about any truck, this is usually an easy fix, but the T-Maxx's fuel tank is in the way of the low-speed needle, making it very hard to adjust. I addressed this problem in the June 2000 "4x4." Simply rotate your carb about 180 degrees, and you will have better access to the low-speed needle. Turning the needle in leans out the mixture, and turning the needle out richens it. Before you adjust the low-speed needle, run the truck to get it up to operating temperature, and pinch the fuel line with a pair of needle-nose pliers. The engine rpm should slowly increase, come down, and the engine will die. If the rpm increase and it takes the engine a long time to shut off, the setting is too rich. If you pinch the fuel line and the engine dies right away, the setting is too lean. Adjust the needle a little at a time, in  $\frac{1}{16}$ -turn increments.

## PERFORMANCE

I fired up my project MP and drove it around to get the engine up to operating temperature. Once the engine was warm, I brought the truck over and tweaked the carb settings. With the truck in the air, I pegged the gas. The tires immediately started to spin as the engine revved up and second gear kicked in at about  $\frac{3}{4}$  throttle; the diameter of the tires grew like crazy! I goosed it a little more to clean out the engine, put it on the ground, and let it go. The truck ripped up the dirt as it took off, and just when I thought its speed would top off, it shifted into second gear. This thing flies! Not only did the acceleration and top speed improve, but the steering was also much better. My transformed MP can run circles around a stock truck; what a difference! The servo had no trouble at all turning the smaller tires. It was almost as responsive as an  $\frac{1}{8}$ -scale racing buggy. How were the brakes, you ask? Adding the second disc was a wise choice after seeing just how fast this sucker goes. The brakes had no trouble slowing the big

truck down. Whatever you do, don't give the truck too much brake when it is in the air. I took the MP off a plastic bike ramp, and I noticed that the front end was a little high. I lightly tapped the brakes, and the wheels locked up immediately. The truck's nose came down very quickly, and the truck just kept somersaulting in the air. If I had had a little more air under the truck, it probably would have landed on the back tires. You are supposed to land these things shiny side up, right? ■

## SOURCE GUIDE

**HARDCORE RACING COMPONENTS**  
(661) 294-5032  
[www.racinghardcore.com](http://www.racinghardcore.com)

**HPI RACING** (949) 753-1099  
[www.hpiracing.com](http://www.hpiracing.com)

**LUNSFORD RACING**  
(541) 928-0587  
[www.lunsfordracing.com](http://www.lunsfordracing.com)

**OFNA RACING** (949) 586-2910  
[www.ofna.com](http://www.ofna.com)

**PRO-LINE** (909) 849-9781  
[www.pro-lineracing.com](http://www.pro-lineracing.com)

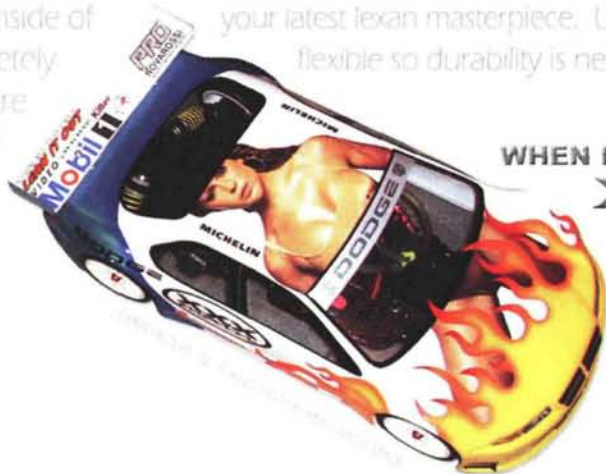
**TRICK RC PAINTWORKS**  
[TrickRacing@hotmail.com](mailto:TrickRacing@hotmail.com)

**UNLIMITED ENGINEERING**  
[www.unlimitedengineering.com](http://www.unlimitedengineering.com)

## XXX MAIN - PAINT MASKS, STICKERS, AND NOW LEXAN PICTURE GLUE

We've got stickers and we've got paint masking kits but what we don't have are full color pictures of whatever you want so we developed a solution to this problem. Lexan Picture Glue: a specially formulated glue used to attach any printed magazine image to the inside of your latest lexan masterpiece. Unlike conventional wood glues our glue dries both clear and completely flexible so durability is never an issue. Ask your local hobby dealer for xxx main's Lexan Picture Glue or for a full product listing go online at...

[www.xxxmain.com](http://www.xxxmain.com)



WHEN IMAGE IS ALL THAT MATTERS  
**XXX MAIN**

Check out our six new stickers!



XXX MAIN: 100-100 47150 120 Queen St. S. Milwaukee WI 53214-1700. Contact: Phone (905) 816-1551 Fax (905) 816-9834 Orders 1-877-344-6793  
Distributed in the USA by: HPI Distribution, Inc. 1-978-9500



AFTERMARKET  
EXOTICA

# ULTIMATE

# Tamiya TA04

BY GEORGE M. GONZALEZ



The TA04 is, arguably, Tamiya's highest-performance, full-production 4WD touring-car platform to date. Its suspension geometry and drive train are derived from those of the Tamiya Racing Factory (TRF) 414M Team Car—a limited-edition model designed specifically for the company's international racing team and available only by special order directly from Tamiya America. The heart and soul of the 414M can be found inside every TA04 model, and it takes only a few well-chosen hop-ups from Tamiya's extensive line of performance upgrades to awaken the champion in the car. The full-option TA04 featured on these pages is basically a 414M in disguise, and with a few exceptions, all the parts are 100 percent TCS-legal.



The Trinity P94 10-turn-double motor and VIS EX-tra 3000HV NiMH battery-pack combo provide amazing power and efficiency. My TA04 is blazing fast, and I always have power to spare for a few extra laps after a 5-minute heat. Be sure to follow the manufacturer's charging and maintenance suggestions to ensure that the batteries always provide top performance.

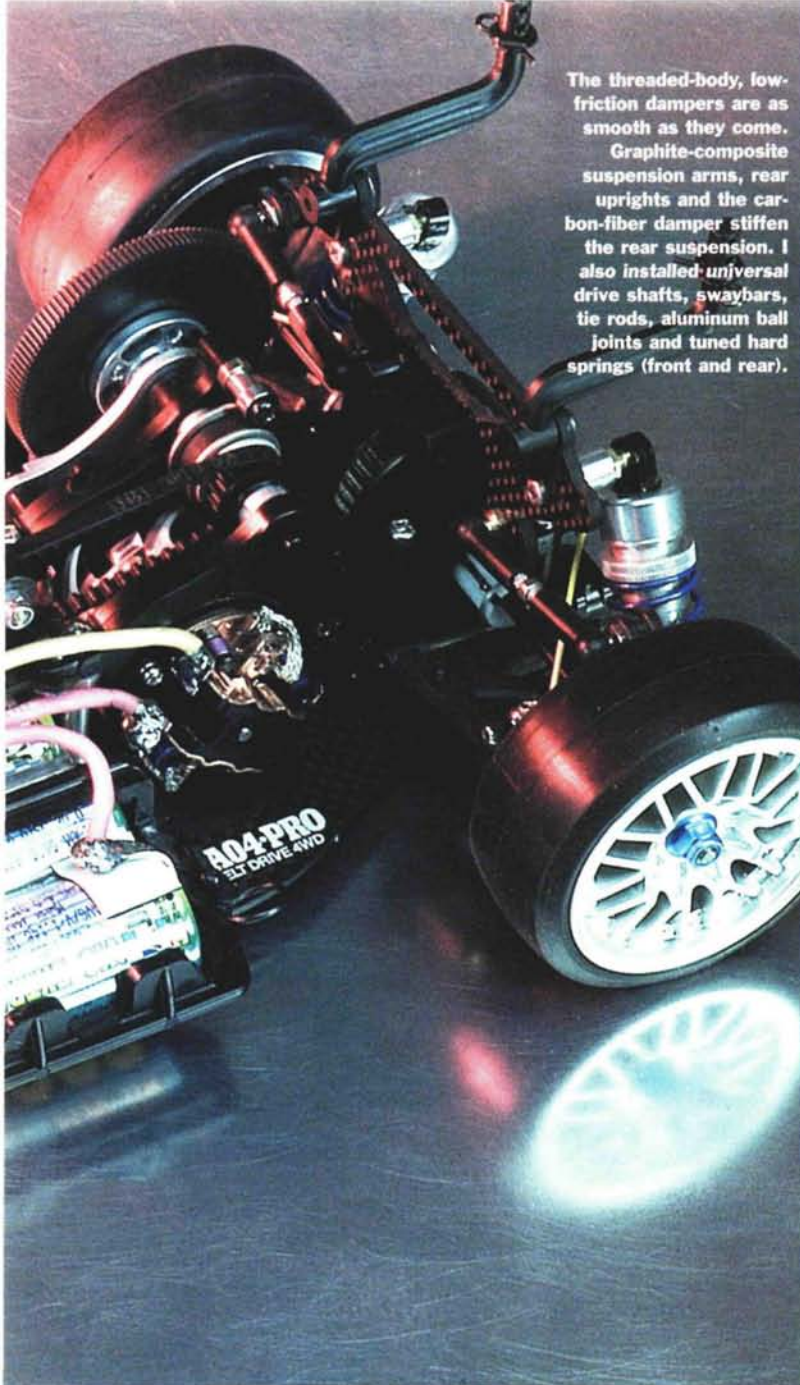


## ULTIMATE ELECTRONICS

- Airtronics M8 transmitter—item no. 90280TX; \$199.
- 92827 27MHz FM micro receiver—92827Z; \$79.99.
- 94755 digital servo—94755Z; \$120.
- Keyence Zero ESC—Z005; \$159.
- Trinity P94 10-turn double-modified motor—P9210D; \$75.
- VIS EX-tra 3000HV NiMH battery pack—SNT3106; \$99.

I went for the stick-pack carbon chassis instead of the saddle-pack configuration, which is also available. I actually tried both configurations and found very little difference in performance between them. The stick-pack configuration accepts side-by-side, homemade battery packs, and you don't have to use strapping tape to secure the batteries to the chassis. You'll need to order TA04 battery holders and aluminum center posts to install the stick-pack carbon chassis on a TA04 tub chassis car as I did, though.





The threaded-body, low-friction dampers are as smooth as they come. Graphite-composite suspension arms, rear uprights and the carbon-fiber damper stiffen the rear suspension. I also installed universal drive shafts, swaybars, tie rods, aluminum ball joints and tuned hard springs (front and rear).



The aluminum racing steering set includes the bellcranks, ball joints and four ball bearings for ultra-smooth, slop-free steering action. The racing hub carriers have an extra ball stud to attach the upper torque rods. The suspension arms are molded from a graphite composite and are extremely stiff. The result? An extremely rigid front suspension with virtually zero flex.



## CHASSIS

### TAMIYA

- Carbon-fiber decks (upper/lower)—item no. 53465/53466; \$17/\$63.
- J-parts tree with battery holders—50871; \$8.
- Center posts—9805675; \$4.

### TITANIUM SCREW SETS

- 3x10 flat-head tapping screws—53018; \$9.
- 3x10 round-head tapping screws—53095; \$9.
- 3x12 round-head tapping screws—53016; \$9.
- 3x15 round-head tapping screws—53017; \$10.
- 3x6 round-head machine screws—53011; \$8.50.
- 3x10 round-head machine screws—53012; \$9.
- 3x15 round-head machine screws—53013; \$10.
- 3x18 countersunk head screws—53019; \$10.
- 3x8 countersunk head screws—53020; \$9.

## SUSPENSION AND STEERING

### TAMIYA

- Turnbuckle tie-rod set—53457; \$6.25.
- Turnbuckle upper-arm set—53456; \$8.
- Racing hub-carrier set—53458; \$18.50.
- Hard rear uprights—53428; \$8.50.
- Hard suspension-arm set—53427; \$17.50.
- Low-friction suspension-shaft set—53479; \$11.50.
- Low-friction threaded-body dampers—49198; \$62.
- Color stabilizer set (F/R)—53441/53442; \$13.50.
- On-road tuned hard spring set—53440; \$16.
- Aluminum racing steering set—53478; \$30.

- Aluminum 5mm ball connectors—53284; \$8.
- Carbon damper stay (F/R)—53460/53461; \$19/\$15.

## DRIVE TRAIN

### TAMIYA

- Ball differential units (2)—53436; \$32.
- Universal shaft sets (2)—53438; \$45.
- Center one-way unit—53450; \$44.
- Lightweight diff joint set—53480; \$20.
- Aluminum ball-diff pulleys (2)—53462; \$10.50.
- Center pulley—53474; \$14.
- Aluminum motor heat sink—53437; \$17.50.
- Aluminum spur-gear hub set—53452; \$19.50.

### ROBINSON RACING

- 128-tooth 64-pitch absolute spur gear—1628; \$7.50.
  - 32-tooth, 64-pitch absolute pinion gear—4523; \$4.75.
- (Not TCS-legal)

## BODY, WHEELS AND TIRES

### RPM

- Chicane wheels—80806; \$8.95.
- (Not TCS-legal)

### TAMIYA

- Mercedes CLK DTM original Teile body—49180; \$60.
- Racing body-mount set—53426; \$10.
- Type B2 racing tire/wheel/insert set—53412; \$52.



# CORONA™

The Ultimate Park Flyer™

- Electric powered
- Flies in high winds
- 5-7 minute flight time
- FUSION 35 controller
- 30 in. main rotor diameter
- 6-7 cell Ni-Cad car battery packs
- Improved main rotor and tail rotor blades

**MODEL 120**

Folding, flexible  
rotor blades



Powerful brushed  
motor modified by  
**REEDY**



Simplified motor/  
radio installation

The new Lite Machines Corona™ electric helicopter is the ultimate park flyer. With its powerful Electro-Fusion™ 540-size motor, the Corona has punchy performance to fly in confined areas and accelerate against gusty winds. The Corona has patented flexible rotor blades that fold up to reduce crash damage, and flies up to seven minutes on a standard six or seven cell R/C car battery.

Never flown a helicopter before? Don't worry, the Corona comes with a fully illustrated construction manual and an operator's guide that will teach you how to fly on your own. Kits start at \$199. Discount combos contain everything from motors to radio control systems. See your local dealer or call Lite Machines for details.



Phone: (765) 463-0959  
Fax: (765) 463-7004  
www.litemachines.com

**Shopatron**

www.shopatron.com

## WWW.RCRAGE.COM

Rage Wheel adapters - Mount 1/8 scale on-road foam tires on HPI SuperNRS4, SNR, NMT and other brands to achieve optimum traction performance.



Actual Image SNRS4:8F

Engines: CMB Italia, Novarossi Mugen, Top, REX  
Car Kits: 1/8 1/10 scale on-road - HPI Proceed / Super NRS4, Mugen MRX-3 / Avance / MTX-2, GS Sonic RTR  
Off-road - T-MAXX, MBX  
Hop-up Parts: RC Rage Racing, Delta, Ofna, Hard Core, RRP  
- Chassis, suspension and much more.

Ask your LHS to order  
or call us direct for  
retail pricing.

**R/C RAGE RACING PRODUCTS**  
SPRING, TEXAS 77373 USA  
PHONE: 281.350.8080 FAX: 281.596.4399  
EMAIL: VALET@RCRAGE.COM

### ULTIMATE TAMIYA TAO4



This TAO4 ball diff is equipped with the optional aluminum diff pulley and lightweight diff-joint set. The aluminum pulley will not melt if you accidentally set the diff too loosely, and it's impervious to small rocks and other debris. The molded diff joints are extremely lightweight for quicker acceleration. The snap-on aluminum bands strengthen the drive cups without adding much rotating weight.

#### ASSEMBLY AND PERFORMANCE

The project started with a slightly used TAO4S chassis that had its fair share of war wounds. The first step was to take the car completely apart and thoroughly clean all of the parts. I then reassembled the car according to the original instructions except that I installed all of the hop-ups as well. As expected, the Tamiya performance upgrades fit beautifully. The parts are nicely packaged and include all of the necessary fasteners and instructions to make installation a snap. The conversion went extremely smoothly, and I didn't run into any snags along the way.

To say that the hop-ups make a night-and-day difference is an understatement. This TAO4 feels like a completely different—and much more refined—touring car. Granted, the Trinity P94 motor and 3000HV batteries can turn any vehicle into a rocket. The Keyence Zero ESC, however, converts the raw horsepower into a smooth, usable power band that makes the car incredibly easy to drive. The car accelerates like a Tomahawk missile and has an abundance of on-power steering that allows me to carve through the twisties with a newfound freedom. Overall, I'm very pleased with the car's performance, and I'm sure you will be, too, if you decide to build one yourself. ■

#### SOURCE GUIDE

**AIRTRONICS** (714) 978-1895; www.airtronics.net.

**KEYENCE** Distributed by Schumacher USA, (813) 889-9691; www.racing-cars.com.

**TAMIYA AMERICA** (949) 362-2240; www.tamiya.com.

**TRINITY** (732) 635-1600; www.trinityonline.com.



## Incredible Chrome

**W**hen I spoke to Brian Chudy (the guy who does most of the cool Pro-Line and Protoform paint jobs) at the New Model and Hobby Show in Chicago, he asked me whether I had seen the new “chrome paint.” Chrome what? We were soon barreling across the convention center to the Alclad II Lacquer booth. There on display sat a “chrome” Lexan Viper body that looked as if it had been cast in steel and double plated; for me, it was like discovering the Holy Grail of paint. The secret to this highly reflective coating lies in the tiny faceted particles that are suspended in the paint. Once the paint has been sprayed onto the inside of a polycarbonate body, the particles align themselves so the result is a mirror-like finish. Here’s how to apply the wonder stuff.



The '55 Ford Thunderbird is an American classic that's known for its beautiful bright chrome accents, and Bolink's Pro Mod version combines this classic's style with the aggressive look of today's drag cars. I applied three coats of liquid masking, allowing it to dry completely between applications. I then cut and removed the masking except for the engine, the front grill and the bumper areas.

**1** I thought it would be cool to incorporate the traditional pink of the '55 T-Bird offset by some darker ghost flames and then to top the car off with a long, overlapping-chrome-flame graphic. Parma's vinyl flame-stripes mask makes the graphic work really easy (part no. 10662). I applied the lower flame mask to the body and then stuck the second matching flame above the first. The exposed area between the two flame stickers was taped off as well.



**2** The main body color is a blend of Faskolor pink and white. *Mix more paint than you think you'll need* because you'll use the paint again later. Apply two solid coats of pink and let them dry completely. Then apply a silver backing coat to prevent any of the colors you apply later from bleeding through.



**3** Clean your airbrush and let the silver paint dry. Now remove the top masking and the masking that connected the two flame graphics. Load your airbrush with a little of your pink paint mixture, but this time, add just a hint of red to darken it.



**4** The secret to producing a good-looking ghost flame is to hit the edges with one even coat and then stop. Resist the temptation to go back and spray the flame a second time. Empty the remaining paint out of the airbrush and refill it with your original pink mixture. The ghost flame will naturally “fade” from its darker tips into the main body color.



**5** Now it's on to the "chrome" sections of the body. Remove the remaining masking from the rest of the flame areas and from the grill, engine and window-border areas, too. Mix the paint thoroughly by shaking the bottle; you'll hear the rattle of a mixing ball as it stirs the paint and suspends the particles uniformly. Spray the paint "as is"—



no thinning.

Spray an even coat of paint at 15psi over the unmasked areas, and then let the paint dry on its own; don't use a hair dryer to speed things up, or you'll prevent the chrome particles from aligning properly and reaching maximum reflectivity. After the

paint has dried, apply a second coat, making sure that you cover everything evenly. Check the uniformity of your coverage by holding the body up to any light and looking through it from the inside. Alternatively, hold a piece of black construction paper on the inside of the body to check for thin spots. You'll have what appears to be a conventional silver paint job at this point, but don't sweat; the magic doesn't happen until the paint is completely dry and has been back-coated.

**6** Clean your airbrush thoroughly with lacquer thinner before you spray on the backing coats. To bring the chromed sections to life, spray on a backing coat of acrylic black or silver. If your chrome coverage is thin in areas, you can back them with silver to make these areas less noticeable, but the chrome shines most brightly with a black backing. This shot of the blower does a pretty good job of showing off the chrome finish, but pictures really can't do the Alclad lacquer justice.



The Alclad lacquer chrome is easy to apply, it looks amazingly realistic, and it's a dramatic departure from anything that has been available previously. If your airbrush has been idle for a while, waiting for something new to come along, I strongly recommend that you fire up the compressor and shoot some shiny stuff. Go paint something!



## FRESH PAINT

When it comes to paint, Frank Killam believes in spreading it around; his good-looking 1/5-scale FG BMW features paint from four manufacturers. The main color is a blend of PPG white and white pearl; the ribbon effect was airbrushed using a blend of House of Kolor's Kandy Tangerine, Kandy Apple Red and Kandy Purple; PPG Sparkle Silver and Silver Flake give the paint that "bass boat" look; the door lines were shot using Faskolor



black; and for some of the car's fluorescent details, he used Pactra paint. The ghost flames on the front of the body are PPG Harlequin backed with white to make the color change more subtle. The flames change from purple to cyan depending on the angle from which the car is viewed. For an overall finished appearance, he shot the inside of the entire body with House of Kolor Silver Base.

Do you have a sharp, uncluttered photo of your best paintwork? Send it in! Explain the types of paint, products and techniques you used to finish it. Be sure to include your full name and address and your email address if you're online. For information about sending electronic images, check out [www.car-action.com](http://www.car-action.com). Send print or slide photographs to "Body Shop," *RC Car Action*, 100 East Ridge, Ridgefield, CT 06877, USA.

## SOURCE GUIDE

ALCLAD II, (813) 643-1232.

BOLINK R/C CARS INC., (770) 963-0252; [www.bolink.com](http://www.bolink.com).

HPI RACING, (949) 753-1099; [www.hpiracing.com](http://www.hpiracing.com).

HOUSE OF KOLOR, (601) 798-4229; [www.houseofkolor.com](http://www.houseofkolor.com).

PARMA/PSE, (440) 237-8650; [www.parmapse.com](http://www.parmapse.com).

PPG, (800) 441-9695; [www.ppg.com](http://www.ppg.com)

## NEW IN THE SHOP

### HPI Mercedes AMG C32

**H**PI's new 200mm Mercedes AMG C32 body accurately captures the sleek lines of the German supercharged street car.

Though this RC car may not have the 349hp of the full-size Benz, it looks as if it does. The coolest thing

about the new Mercedes body-next to its good looks-is that it features HPI's new pre-cut decals. This means you don't have to cut out a single sticker, and that greatly speeds up your body-finishing time. HPI AMG C32-item no. 7472; \$24. •





# Flying with the Hobby Zone Firebird II

It's important to make the same face as the kid on the box.

Let's get one thing perfectly clear: this is *RC Car Action*, and our focus will always be RC cars, but judging from the letters and email I receive, a lot of you would like to experience other types of RC as well, if for nothing more than some diversionary kicks and giggles. That's where I come in; I'm into RC everything (hmm ... Mr. Everything RC ... I like it!). Anyway, there's so much fun to be had out there with all kinds of RC stuff, and, being Mr. Everything RC, naturally, I want to show you all of it. For this first installment of "Alternative RC," I'll show you how easily and inexpensively you can get involved with another popular type of RC action: flying!

## STUFF YOU ALREADY HAVE

If you start off with an electric plane—and I suggest that's what you do—chances are, you already have some car gear that can also be used for flying.

**GENERAL TOOLS:** pliers, screwdrivers, hobby knives, etc.

**CHARGER:** if your charger can juice up receiver packs, it will be fine for most RC planes' onboard batteries.

**SERVOs:** if you like flying well enough to build your own kits, your mini- and microservos will work great in "backyard," or "park-flyer," airplanes.

**BATTERIES:** depending on the plane, you may be able to use your rechargeable AA-, sub-C-, or receiver batteries for power.

**SKILL:** half of mastering flight is nailing down the whole left/right thing both in the going-away and the coming-at-you modes, which as a car guy, you've already done.

You're already halfway to getting airborne! Really—it's true; would I lie?



Above: the Firebird II kit is very complete. Except for the AA batteries needed for the transmitter, absolutely everything you'll need is in the box—you'll even get an extra wing. Although the Firebird is very tough, sooner or later you will break something, and that something will probably be the wing. We break our cars and trucks, don't we? Well; it's the same thing with planes. The included videotape is extremely helpful—watch it twice! Right: it takes about two minutes to assemble the Firebird. You just rubber band the wing to the fuselage. Even Greg was able to figure it out, and he has yet to understand why a square peg won't fit into a round hole.

## ANATOMY OF AN AIRPLANE

**Wing.** The wing generates sufficient lift to carry the weight of the model. It produces this lift by moving through the air. The faster it moves, the more lift it generates, and to fly, a model must move through the air fast enough to produce sufficient lift. Once the wing's forward speed drops below the point at which it produces sufficient lift to carry the model, the model will fall from the sky. This is called the "stall speed." So, you see, you must keep the model moving forward. Fortunately, at low speeds, the Firebird's wing produces enough lift to carry the model in flight.

**Elevator.** This controls the airplane's upward and downward pitch (angle) as viewed from the side. Up-elevator puts the model into an attitude for climbing, but it will climb if-and only if-the wing is moving sufficiently fast through the air to supply enough lift to carry the model upward.

**Rudder.** This pushes the airplane's tail either right or left to initiate a turn. For example, the rudder pushes the tail left, and that turns the nose, and the model's flight path, to the right. So, the rudder turns the model but, again, only if the wing is supplying sufficient lift to carry the weight of the model.

The Firebird uses a split-V-tail elevator that simultaneously gives both elevator and rudder effect to control both the airplane's altitude (pitch) and direction (turn). This is one of the reasons the Firebird II is such a great model for beginners: turning an airplane requires the simultaneous input of

both rudder and elevator, and the Firebird automatically supplies the correct mix of both.

**Speed control.** This is just like the ESC in your car, but in the Firebird, it controls prop speed, which supplies thrust: the higher the prop's rpm, the higher the thrust; and thrust is directly related to that all-important factor: forward speed. Oh, yes; unlike our cars, the Firebird's electronics are permanently installed.

**Motor.** It doesn't take a lot of motor to get a small plane airborne; this one is a 200-class size. That is much smaller than the 540-size class for our cars, but it's exactly the same basic design.

**Battery.** The Firebird flies on just a 4-cell, 600mAh NiMH battery pack; one is included in the kit (with a wall charger). Don't be like Greg; read the instructions. If you charge the pack for much more than 2 hours, you'll fry it. Just ask raisin-brain Vogel. (Two pebbles rattling in a can; that's what it sounds like when Greg shakes his head

"yes" or "no.") This small model could handle a more powerful battery pack, but that is totally unnecessary with the Firebird. It gets more than 10 minutes of flight time with the stock pack. And, yes; quick-chargers are available.

**Transmitter.** Airplanes are always flown with stick controls: the left stick controls the throttle (forward equals faster), and the right stick controls direction.







## So, what it's like to FLY?

Easy—very easy. Don't let my earlier crash course in aerodynamics throw you. This is about the easiest to fly RC model airplane I've ever seen, and I've seen 'em all! If you're an experienced RC driver, think back to that very first electric car you drove around a local parking lot. Well, flying the Firebird is somewhat the same, but it rises and floats above that parking lot. And instead of "steering," as you do with a car, think of it as more directing and redirecting an airplane's flight path—a somewhat less aggressive affair than steering.

Don't fly in wind. The Firebird just can't handle it. The instructions tell you not to fly it in more than a 5mph breeze.

In-depth instructions are included with the Firebird II in both written and video formats; they are very clear and are true learning aids. So read the instructions and view the video. If, however, you refuse to do either, let me give you a few first-flight tips.

When you launch the Firebird,

do so into the wind, if there is any. Apply full throttle, lightly tossing the model at a level attitude—not pointing it up or down. Allow the Firebird to climb to a good altitude (several hundred feet) with it moving straight away from you without turning.

At a safe altitude, make a gradual 90-degree left turn until the model is flying perpendicular to your line of sight, and let it fly this heading for a few moments. Repeat this procedure so that ultimately, you will have flown a left-hand box with rounded corners around yourself. Do this for a while, or even for your entire first flight. You might want to do this for the next few flights, too, and once you feel comfortable, try the same thing but make right-hand turns to form a box around yourself.

We car guys have one thing going for us: we are already used to the reversed steering involved when a model is coming toward us. This is something that new airplane guys have to put in lots of

practice to overcome. We've already got that problem covered. Remember; don't apply any one control input for more than a few seconds, or the model will start to spiral toward the ground.

The most important thing to remember regarding flight is this: an airplane knows how to fly better than you or I ever will. So stay out of the way and let it do its thing. A good pilot just redirects the airplane when needed. Bad pilots try to force an airplane around the sky. Fortunately, the Firebird II will make even a bad, instruction-ignoring pilot look good. I think it's worth mentioning that the easy flight characteristics of the Firebird didn't stop Greg from hitting two trees, one baseball backstop and our red-brick office building, and the Firebird kept flying in spite of it all. It's one tuff bird.

**A straight and level toss with the engine going full throttle is the way to launch the Firebird II. Do not fly the model if the wind is blowing at more than 5mph. (The videotape includes a great little trick for calculating wind speed.) And please, don't forget: launch it directly into the wind!**

### WANT TO LEARN MORE?

If you want to find out more about different kinds of small models that can be flown close to your home in baseball diamonds and parks, check out our new magazine—*Backyard Flyer*—that is dedicated to that subject and that subject alone. ■

### SOURCE GUIDE

**HOBBY ZONE**; distributed by Horizon Hobby Inc., (217) 355-9511; [www.horizonhobby.com](http://www.horizonhobby.com).



# PRO-LINE TRACK YOUR 2002 TRACK GUIDE DIRECTORY



**FREE! Track owners!** You can be included in this directory brought to you by Pro-Line. Just fill out the coupon on page 239. Additional track listings may be found online at [www.rccaraction.com/info/track\\_directory\\_form.asp](http://www.rccaraction.com/info/track_directory_form.asp).

## ALABAMA

**Beacon Point RC Raceway**, 15717  
Beacon Point Dr., Tuscaloosa, Alabama  
35406; Don, (205) 333-8679

**Hobbytown USA Raceway**, 450-Q  
Schilling Rd., Mobile, Alabama  
36608; Rob & Kari Baker, (334) 633-  
8446; email: HTUMOBILE@aol.com

**Mobile Miniature Speedway**, 5963  
Highway 90, Theodore, Alabama  
36582; Richard Sweetser, (866) 653-  
6643 or 251-653-6643; email:  
hurricane.71@gateway.net

**Montgomery's Field of Dreams**, 5924  
Ralston Way, Montgomery, Alabama  
36116; Mike Westendorf, (334) 281-  
9432; email:  
mike\_westendorf@yahoo.com

**Oak Mtn R/C Raceway**, p.o. box 619  
Columbiana, Alabama 35051;  
Matthew Gordon, (205) 669-6837;  
email: oakmtncraceway@hotmail.com

**Phenix Raceway & Hobby**, 2006  
Opelika Rd., Phenix City, Alabama  
36867; Chris Watson, (334) 298-9786;  
web:  
members.nbci.com/PhenixHobby/

**R/C Hi-Tech Raceway**, 3303 Meridian  
St., Huntsville, Alabama 35811; Rick  
Chambers, (256) 539-1347

**Spring Cove International Speedway**,  
240 County Rd. 356, Florence,  
Alabama, 256-757-1562; email:  
rvines@hiway.net; web: www.spring-  
covespeedway.com/SpringCove.htm

## ARIZONA

**Hobby Town Raceway**, 13802 N.  
Scottsdale Rd., Scottsdale, Arizona,  
(602) 948-3946

**HobbyTown Mountain Raceway**, 1500  
E. Cedar Ave., Cedar Hills Shopping  
Center, Flagstaff, Arizona 86004;  
Richard, (520) 214-9887

**HobbyTown Raceway**, 1102 E. 22nd  
St., Tucson, Arizona 85704, (520)  
882-8888

**HobbyTown U.S.A.**, 5030 E. Ray Rd.  
Phoenix, Arizona 85044; Linda  
McFarland, (480) 598-5282

**R/C Sports Mania**, 3550 N. 35th Ave.,  
Phoenix, Arizona 85017; Gary Dick,  
(602) 278-3671

**Scottsdale R/C Raceway**, 3023 N.  
Scottsdale, Scottsdale, Arizona 85251;  
Scott Anfinson, 480-945-2186

## ARKANSAS

**Grand Slam Hobby**, 5300 S. Zero St.  
Ft. Smith, Arkansas 72901; Bryon  
Shumate, (501) 648-1994

**Hobby Town USA**, 356 E. Joyce  
Fayetteville, Arkansas 72703; Darrell  
Irvin, (501) 571-3730

**Sparks R.C. Raceway**, 7194 Greene  
721 Rd., Paragould, Arkansas 72450;  
Tommy Sparks, (870) 239-3606

## CALIFORNIA

**California R/C Raceway**, 1230 N.  
Kramer, Anaheim, California 92806;  
Brad or Taka, (714) 630-9340

**Capital City R/C Center**, 8950 Osage  
Avenue, Sacramento, California  
95829, 916-383-3445; web: www.cap-  
italcityrc.com

**Castle Hobbies**, 14918 Camden Ave.,  
San Jose, California 95124, (408)  
377-3771

**CCRCRC**, Central Park, California City,  
California 93505; Josh Geiger,  
(760) 373-2537; email:  
gorace@ccis.com

**Crystal Park Raceway**, 123 Artesia,  
Compton, California 90202-4925;  
James Reese, (310) 631-0307; email:  
mailto:info@crystalparkraceway.com

**Delta R/C Raceway & Hobbyshop**,  
1201 W. 10th St., Antioch, California  
94509; Jerry, (925) 778-2965; web:  
www.deltarc.com

**Fastrax**, 4451 Inyokern Rd.,  
Ridgecrest, California; Danny Quinn,  
(760) 377-1193; email:  
webmaster@fastrax.com; web:  
www.fastrax.com

**Grams Raceway**, 2701 Deer Lane  
Willets, California 95490; Nathan  
Long or Mark Long; email: blade-  
boy69@hotmail.com

**Hobby Central Raceway**, 13461  
Community Road, Poway, California  
92064; Lee, (858) 513-0373; web:  
www.hobby101.com

**Hobby World**, 6148 Bollinger Rd., San  
Jose, California 95129; Guy Bassett,  
(408) 873-2109

**Hot Rod Hobbies**, 25845 San  
Fernando Rd., #21, Saugus, California  
91350; Jimmy Babcock, (661) 255-  
2404

**Jake's Performance Hobbies**, 6650  
Commerce Blvd. #21 Rohnert Park,  
California 94928; Jake, (707) 586-  
3375; email: JPHRacing001@aol.com

**K&M Raceway**, 22474-A Barton Rd.,  
Grand Terrace, California 92313;  
Tyson Voll, (909) 783-0899

**L&B Bone Yard**, 5914 Plans St.,  
Inyokern, California 93527; Louis  
Marcus, (714) 377-4811

**Lucerne Valley Raceway**, 32800 Old  
Woman Springs Rd., #4, P.O. Box  
2047, Lucerne Valley, California  
92356; Frank Rodrigue, (760) 248-  
7305

**Nor-Cal Mini-Speedway**, 519 Bush St  
Woodland, California 95695; Steve  
Van Atta, (530) 668-5678

**Paradise Hobbies**, 491 Pearson Rd.,  
Paradise, California 95969; David  
Lafabregue, (530) 877-6447; email:  
paradisehobbies@aol.com

**Porterville RC Raceway**, 155 n  
Newcomb, Porterville, California  
93257; Dan Beebe, (559) 789-0545;  
email: dibeebe@thegrid.net

**R.O.C.K.S. (Radio Operated Car Klub  
of Solano)**, 2525 W. Texas St.,  
Fairfield, California 94533; Mike  
Learn, (707) 447-0492

**Raceris Haven Raceway**, 7401 White  
Lane #12, Bakersfield, California  
93309; Greg Cooper, (805) 835-0441

**Rattlesnake Raceway**, 16470 Benson  
Rd., Cottonwood, California 96022;  
Mel or Mike Fisher, (530) 347-7215;  
email: RC-geezee@aol.com; web:  
members.nbci.com/CAR-RCORR

**Rescue Mini R/C Speedway**, PO Box  
206, Rescue, California 95672; Bruce  
Pease, (530) 621-3948; web:  
www.innercite.com/~rcracing/

**Ripon R/C Speedway**, 701 N. Acacia  
Ave., Rippon, California 95366; Dan  
Tanis, (209) 599-5160

**Sacramento RC Racing & Hobbies**,  
6201 27th St., Sacramento, California  
95824; Andreas Muller, (916) 424-  
4001; email:  
andreas123@earthlink.net; web:  
www.77sunset.com

**Showtime R/C Speedway**, 3805  
Chester Ave., Bakersfield, California  
93301; Don Risner, 661-203-1481;  
email: Showtimetrack@aol.com; web:  
www.ShowtimeSpeedway.com

**So Cal R/C Raceway**, 19118  
Brookhurst St., Huntington Beach,  
California 92646; Jim or Lana, 714-  
963-7484; email: info@socalrc.com;  
web: www.socalrc.com

**Sonora R/C Raceway**, 659 Sanguinetti  
Rd., Sonora, California 95370; Jeff  
Amos, (209) 536-0580

**SpeedWorld Raceway**, 90 Corp Yard  
Road, Roseville, California 95678;  
Billy Bowerman, 916-783-8864; email:  
speeddog@mindsync.com; web:  
speedworldraceway.com

**The Dirt Valley R/C Racepark**, 146  
So. Santa Fe St., Hemet, California  
92344; Joe Christenson,  
(909) 925-7592

## COLORADO

**MHOR R/C Raceway**, 15540 E.  
Batavia Drive, Aurora, Colorado  
80012; Jess A. Brockman, (303) 343-  
0151; email: MHORRC@aol.com; web:  
members.aol.com

**Valley West Off-Road RC Club**, 447  
30 1/4 Rd., Grand Junction, Colorado  
81504; Mike Main, 970-242-8846

## CONNECTICUT

**K&N R/C Speedway Inc.**, 55 West St.,  
PO Box 64, Stafford Springs,  
Connecticut 06076; Jim Tierinni or  
Steve Schmid, (860) 684-9896

**Manchester Hobbies**, 29 Olcott St.  
Manchester, Connecticut 06040; Jim  
or Mike Tierinni, (860) 643-4768

**R/C Madness**, 640 Enfield St., P.O.  
Box 64, Enfield, Connecticut 06082;  
Christopher Marcy, (860) 741-6501;  
email: cmarcy@rcmadness.com; web:  
www.rcmadness.com

**Xtreme Radio Control**, 469 Danbury  
Rd., New Milford, Connecticut 06776;  
Paul or Pete, (860) 354-4703

## DELAWARE

**ESRC**, Route 13 South, Seaford,  
Delaware 19973; Bill Auchterlonie,  
302-734-2757/302-629-3944; email:  
whatsupbnt@msn.com; web:  
http://reachus.at/rcracing

**PTV Hobbies**, 1472 East Lebanon  
Dover, Delaware 19901; Pierino  
Vicere, (302) 697-8350; email: pthob-  
bies@mindspring.com

## FLORIDA

**B&T RC Central**, 811 Playground Rd.,  
Fort Walton Beach, Florida 32547;  
Mike or Tim, 850-863-1666; email:  
funandhobbies@aol.com; web: btrc-  
central.com

**Daytona R/C Racing Assoc.**, 1190  
Golf Ave., Ormond Bch., Florida  
32174; Tim Davis, 904-676-9001;  
email: tdavis32@earthlink.net; web:  
www.oepages.com

**/SPORTS/Autoracing4/tdavis/**

**Farmers Hobby Shop & Raceway**,  
5006-3 E. Broadway, Tampa, Florida  
33619; Greg Cardone, 813-248-3314;  
web: www.farmershobby.com

**First Coast Speedway**, Arlingtonwood  
Park, Corner of Lone Star Rd. & Mill  
Creek Rd., Jacksonville, Florida  
32211; Dennis Harvey, 904-744-0400;  
email: dlhwoody@aol.com; web:  
www.fortunecity.com/marina/finis-  
terre/1605/fcar

**G&C Hobby Raceway**, 1228 Hypoluxo  
Rd., Lantana, Florida 33462; George,  
(561) 547-3812; email:  
gnc hobbies2@cs.com; web:  
www.gnc hobbies.com

**GBS Hobbies**, 6839 South U.S. 1, Port  
St. Lucie, Florida 34952; Track Owner,  
561-460-2844; email: qaircraft@bell-  
south.net

**Grand Prix RC Club**, 2551 Peters Rd.,  
Ft. Pierce, Florida 34945; Luther  
Peterson, 561-473-2130; email: LWP-  
SPEED@aol.com

**Gulf Coast RC Club**, Berkshire  
Commons Shopping Center, Naples,  
Florida 34105; Mark Benfield, 941-  
774-7116; email: teamnotear@aol.com

**Hobby Central**, University Mall, 7171  
N. Davis Hwy., Pensacola, Florida  
32504; Bill McLester, 850-471-9800;  
email: trackinfo@hobbycentralrc.com;  
web: www.hobbycentralrc.com

**Hobby World Raceway**, 7273 103rd  
St., Jacksonville, Florida 32210; Greg,  
(904) 772-9022

**Kissimmee R/C Auto Racing**, Model  
Craft World, Osceola Square Mall,  
3831 West Vine St., Suite 60  
Kissimmee, Florida 34741; John  
Rosser, (407) 944-4913; email:  
john@craftworldflorida.com; web:  
www.craftworldflorida.com

**Means R/C Raceway**, 150 Pondell Rd.,  
North Fort Myers, Florida 33903; Pete  
Gonzalez, (941) 772-2251; email:  
jaimevootton@vortadatt.net; web:  
members.nbci.com/wootj

**Monster Hobbies**, 616 Southeast 10th  
St., Deerfield Beach, Florida 33441,  
(954) 428-9118

## KEY TO SYMBOLS

- |  |           |  |                    |
|--|-----------|--|--------------------|
|  | Indoor    |  | Concrete           |
|  | Outdoor   |  | Asphalt            |
|  | Off-road  |  | On-site hobby shop |
|  | Oval      |  | AC power           |
|  | Dirt oval |  | Auto lap counting  |
|  | Carpet    |  | Food available     |



**Monza R/C Speedway**, Palmetto Hwy. & SW 40 St. Miami, Florida; Ed Delgado, (305) 437-9895



**Morris Kohls Raceway and Hobby Shop**, 1202 W. Waters Ave., Tampa, Florida 33604; Morris Kohl, (813) 931-1626



**My Rose Hobbies & Crafts**, 1695 W. Indiantown Rd., Jupiter, Florida 33458; Mark Watson, (561) 744-3800



**NORRA**, 6820 Darby Court, Naples, Florida 34104; Dan Rodriguez, 941-352-9021; web: www.norra.mainpage.net



**Ocala Radio Controlled Car Club**, PO Box 6932, 2612 NE 24th Street, Ocala, Florida 34478-6932; Bill and Bonita Hamilton, (352) 369-1895; email: staff@ORCCC.org; web: www.ORCCC.org



**Port St. Lucie Racing**, 3626 SW Rivera St., Port St. Lucie, Florida 34953; Frank Spadavecchia, (561) 336-8711



**Pro Hobbies Speedway**, 715 N. Lake Pleasant Rd., Apopka, Florida 32712; Jim, (407) 886-4615; email: probobby@junio.com



**Sand Dollar Speedway**, 1900 S. Hwy 87, Suite I, Navarre, Florida 32566; Jim or Bev Patterson, (850) 939-8788; email: sanddollarspedwy@aol.com; web: members.aol.com/sanddollar-speedwy/index.html



**Sarasota R/C Speedway**, 8475 Cooper Creek Blvd., University Park, Florida 34201; Jim Wilson, (941) 358-7047



**South Palm Beach Racers**, 1724 South West 7th St., Boca Raton, Florida 33486; Mike Fazio, 561-338-5367; email: epine01@bellsouth.net; web: www.gopbi.com/community/groups/spbrclub/



**Superior Hobbie R/C Parking Lot Racing**, 1478 Semoran Blvd., Casselberry, Florida 32707, (407) 834-9299; email: racing@superiorhobbies.com; web: www.superiorhobbies.com



**SWF RC Car Club**, 11755 S. Cleveland Avenue, Fort Myers, Florida 33907; Mike Nardone, 941-278-1295; email: swfrcclub@yahoo.com; web: swfrcclub.tripod.com/swfrcclub



**Tallahassee R/C Speedway**, Eastwood Dr., Tallahassee, Florida 32301; Roland Costine, 850 671 2814; email: hidingami@aol.com; web: www.geocities.com/rcdude1/rcars.htm



**Tampa R/C Raceway**, 6036 Black Dairy Rd., Seffner, Florida 33584; Carole Raimondi, 813-655-6366; email: carolehobbytown@aol.com



**West Coast R/C Club**, 17320 North Dale Mabry (track address), Lutz, Florida 33549; J.R. Sanyet, President, 813-991-0168



## GEORGIA

**Augusta R/C Racers Club**, 3628 Crawfordville Dr., Augusta, Georgia 30909; Darren, 706-860-5608



**Dalton Raceway and Hobby**, 3036 Parquet Road, Dalton, Georgia 30720; Keith Manton, 706-226-6699; email: keithm@dalton.net; web: www.daltonraceway.com



**Hobby Town Raceway**, 6770 Veterans Parkway, Columbus, Georgia 31909; Frank Bastos, (706) 660-1793; email: fbastos@mindspring.com; web: www.hobbytown.com



**Primetime Raceway**, 432 S. Wall St., Calhoun, Georgia 30701; Tommy Jackson, 706-625-9037; email: PRIME-TIMEHOBBY@GCCIINTERNET.NET; web: PRIME-TIMEHOBBY@GCCIINTERNET.NET



**SCORE-Phil Hurd Raceway**, 41 Cove Dr., Savannah, Georgia 31419; J. Filipow, (912) 232-9985; email: jfilipow@scad.edu; web: www.score-racing.org



**Sugar Bowl R/C Speedway**, 5272 Nelson Brodgon Hill, Sugar Hill, Georgia 30518; Shelley Bailey, (770) 945-6709



**The Flight Box Hobby Shop**, 3134-C Rockmart Rd., S.E. Rome, Georgia 30161-6826; Leslie Duke, (706)-234-3014



## HAWAII

**A.S.I. Racing**, 4-356 Kuhio Highway Kapaa Kauai, Hawaii 96746; Arnold Morales, 808-821-8132



## IDAHO

**Almota Ranch Speedway**, 1732 Eldridge Ave., Twin Falls, Idaho 83301; Casey Clements, (208) 733-8219



**Boise Hobby Raceway**, 4516 Overland Rd., Boise, Idaho 83705; Jim, (208) 363-9555



**Capital Dirtburners**, 300 Scout Lane Boise, Idaho 83702; Jim Small, 208-433-1631; email: cdbrcracer@qwest.net; web: communities.msn.com/capitaldirtburners



**Redneck Raceway**, 1188 1/2 Wilson Ave., Pocatello, Idaho 83201; Randy Willson or Tim Hancock, 208-238-3353 or 208-238-0609; email: Redneck\_Raceway@hotmail.com



## ILLINOIS

**AJ's Raceway & Hobby**, 10211 Keslinger Rd., Dekalb, Illinois 60115; AJ, 815-756-2772; web: www.ajsraceway.com



**C.I.R.C.A.**, 905 Bibbs St., Jacksonville, Illinois 62650; Sport eni Hobby, (217) 245-1375



**Dirt Slingsers RC Club**, Ottaville Rd., Ottaville, Illinois 62052; Valerie Dellenbach, 217-942-6891; email: dirt-slingers@hotmail.com; web: www.dirtslingsers.org



**Machesney Park Raceway**, 1220 Shappert Dr., Machesney Park, Illinois 61115; Gina, (815) 282-1311; email: mpr30@homestead.com



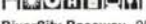
**Monee R/C Raceway**, 26049 Ridgeland Ave., Monee, Illinois 60449; Roy or Roberta Moody, (708) 534-2422 (track), (708) 799-5597 (office)



**R/C Raceway**, 1200 West Algonquin Road Lot#3, Palatine, Illinois 60067; Jamie Pauls, 847-612-3140; email: jamie@sharingideas.com; web: www.sharingideas.com



**Radio-Acove Raceway**, 751 N. Bolingbrook Dr., #15 Bolingbrook, Illinois 60440; Jim, (630) 759-7557



**RiverCity Raceway**, 2524 W. Farrelly Ave., #D, Peoria, Illinois 61615; Don Davis, 309-682-4000; email: sales@thecollectorschoice.com; web: www.thecollectorschoice.com



**Venture Raceways**, 19091 West Casey Rd., Libertyville, Illinois 60048, (847) 549-6963



## INDIANA

**Bremen Racing Ent.**, 308 N. Bowen Ave., Bremen, Indiana 46506; Dale Heuberger, 219-546-3807



**Duneland Hobbies & Raceway**, 1601 W 37th Hobart, Indiana 46368; Ron, 219-945-1239; email: RTrobaugh1@email.msn.com; web: www.dunelandhobbies.com



**GM Raceway**, 1651 W. Franklin St., Elkhart, Indiana 46516; Pete Russell, 219-293-1827



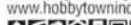
**Hardesty R/C Raceway**, 11 East Plymouth St., Hamlet, Indiana 46532; Max Hardesty, (219) 867-8600



**Hobby Barn Raceway**, 1950 Springhill Terre Haute, Indiana 47802-9694, (812) 299-5773



**Hobbytown U.S.A.**, 6336 E. 82nd St., Indianapolis, Indiana 46250; Sonny Brown, (317) 845-4106; email: trackinfo@hobbytownindy.com; web: www.hobbytownindy.com



**Madison Fun Wheelers**, 4-H fairgrounds St.RD. 256 Madison, Indiana 47250; Charles McCormick, 812-265-4576; email: chatchell@seidata.com



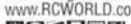
**P&T Hobbies and Raceway**, RR #2 (Hwy. 60), Box 450A, Mitchell, Indiana 47446; Paul Weber or Tom Logsdon, (812) 849-6666; email: pnthobby@bigfoot.com



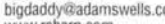
**Pete Russell's R/C Speedway**, 1651 W. Franklin St., Elkhart, Indiana 46516; Pete Russell, 219-293-1827



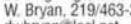
**R/C World of Indiana**, 2246 West U.S. Hwy. 36 Lynn, Indiana 47355; Joe Kolp, (765) 874-2464; email: rcworld@globalsite.net; web: www.RCWorldID.net



**RC Barn**, 310 N 125 W. Monroe, Indiana 46772; Mark Lengerich, (219) 692-6600; email: bigdaddy@adamswells.com; web: www.rcbarn.com



**Schoolyard RC Speedway**, 3020E US 20 Lagrange, Indiana 46761; David W. Bryan, 219-463-3598; email: dwbryan@loc.net

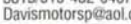


**Showtime Lot Racing**, 606 Lower Huntington Road, Fort Wayne, Indiana 46819; Mike Romines, (219) 478-6099; web: http://fortwaynecrcpark.tripod.com/

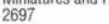


## IOWA

**Ames Radio Control Speed Assoc.**, 2337 230th Street Ames, Iowa 50014; Ryan Davis/Brad Scandrett, 515-231-3813/515-432-0467; email: Davismotors@aol.com



**Delbis Speedway**, 423 11th Ave. So. Clinton, Iowa 52732; Rustis Miniatures and Hobbies, (319) 243-2697



**Dubuque R/C Speedway**, Dubuque County Fairgrounds, Dubuque, Iowa 52001, Paul Conlon, (319) 556-2736



**Hobby Haven**, 7672 Hickman Rd., Des Moines, Iowa 50322; Rick Marble, (515) 276-8785; web: www.hobby-haven.com



**Inside Challenge**, 2028 Main St. Keokuk, Iowa; Jessie, (319) 524-2225



**Iowa City R/C Racing Association**, Johnson County Fairgrounds, Bldg. 6, 3149 Old Highway 218 South, Iowa City, Iowa 52240; Hobby Corner, (319) 338-1788



**ROAR-Vinton Raceway @ Vinton Roller Rink**, 3661B First Ave. SE, Cedar Rapids, Iowa 52402; Ed Karr, 319-362-1291; email: boxkarhobby@aol.com



**Manly R/C Club**, P.O. Box 23, Manly, Iowa 50456; Bruce Hill, (641) 454-2025



**Marble's Raceway**, 4685 SE 40 St. Des Moines, Iowa 50317; Rick Marble, (515) 262-7507



**Radio Control Raceway Park**, 2100 First Avenue North, Fort Dodge, Iowa 50501-6746; Bernie Halverson, (515) 576-3780; email: bhalverson@dodgenet.com



**RiverFront Speedway**, Meriweather Drive, Fort Dodge, Iowa 50501; Bernie Halverson, 515-576-3780 (515-571-1717 Race Day); email: bhalverson@dodgenet.com



**Wild Bill's Raceway**, 901 W. Jones, Knoxville, Iowa 50138; William Anderson, Jr., 641-842-5973; email: wildbill@iowatelecom.net; web: www.wildbillsracing.com



## KANSAS

**Air Capital Hobbies Raceway**, 8989 W. Central, Wichita, Kansas 67212, (316) 721-4164

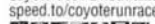


**D&B Raceway**, HCl Box 45, Menlo, Kansas; Ron Ball, (785) 855-2370

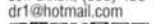


## KENTUCKY

**Coyote Run Raceway**, 218 N. M. L. King Blvd., Lexington, Kentucky 40507; Paul Purcell, 859-253-9330; email: coyoterace1@hotmail.com; web: full-stop1/coyoterunraceway/



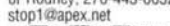
**Dixon's R/C RaceWay**, 1428 Lost Creek Road, Hazard, Kentucky 41701; Jeff Dixon, (606) 436-4820; email: jeffdr1@hotmail.com



**Mayking R/C Speedway**, 120 Corkwood Lane, Mayking, Kentucky 41837; Jon Fields, 606-633-4700; email: jon1@se-tel.com



**Pit Stop Hobbies**, 3233 Clarks River Rd., Paducah, Kentucky 42003; Robert or Rodney, 270-443-0052; email: pit-stop1@aepex.net



**TK-RACEWAY**, 131 KURT DR., BENTON, Kentucky 42025; CHAD LATTA, 270-395-5267; email: clatta@aepex.net



**Trio Hobbies & R/C**, 216 Redmar Plaza Radcliff, Kentucky 40160; Maurice Johnson, (502) 351-7547

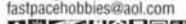


**Wildcat Speedway**, 123 Main St. Nicholasville, Kentucky; David Bowles, 859-272-0231

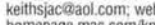


## LOUISIANA

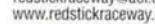
**Fast Pace Hobbies**, 3101 Lee Street Alexandria, Louisiana 71301; Joseph or Casey Toralba, 318-561-2070; email: fastpacehobbies@aol.com



**Gator R/C Raceway**, 3691 Hwy. 171 Moss Bluff, Louisiana 70612; Tony Diaz, 337-855-3206; email: keithsjac@aol.com; web: homepage.mac.com/kmaples/



**Red Stick R/C Raceway**, 8844 Greenwell Springs Rd., Baton Rouge, Louisiana 70814; Michael Pino, 225-218-1002; email: redstickraceway@aol.com; web: www.redstickraceway.com



**St. Charles RC Speedway**, East Bank Bridge Park, Destrehan, Louisiana 70047; Al Cazalot, (504)764-0625; email: stcharlesracer@home.com; web: members.home.net/stcharlesracer



## MAINE

**Central Maine R/C Speedway & Hobbies**, 87 Main Street, Fairfield, Maine 04963; David Prescott, (207) 453-4588; email: rcracer@mint.net



**Clay Bowl R/C Hobbies**, P.O. Box 61 Greene, Maine 04236; Pat Cap, (207) 946-5003



## MARYLAND

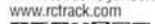
**Coles Race Way**, 3833 Pine Cone Cir. Waldorf, Maryland 20602; Cole Brincefield, (301)-843-1386; email: kbrincefield@cs.com



**GPA Hobbies**, 2431 Crofton Lane Suite 6, Crofton, Maryland 21114, 301-888-0004



**The Track**, 16806 Oakmont Ave. Gaithersburg, Maryland 20877; Mimi Wong, (301) 417-9630; email: mimithetrack@yahoo.com; web: www.rctrack.com



## MASSACHUSETTS

**Big Boys Toys**, 33 Father DeValles Blvd., Fall River, Massachusetts 02723; Track Owner, 508-677-9400



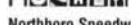
**Everett Raceway**, 115 Edith Street Everett, MA, Massachusetts 02149-1700; Luangel Perez, 781-929-3604; email: ekabong13@yahoo.com



**Hi-Tech Hobbies**, 1681 Broadway (Rt. 138) Raynham, Massachusetts; Ruben, (508) 880-5373



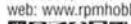
**Megadrome Raceway**, Rt. 8 Curran Hwy., North Adams, Massachusetts 01247; Bob Blanchette, 413-743-7223



**Northboro Speedway**, 168 Main St., Rte. 20 Northboro, Massachusetts 01532; Bob Trimble, 508-393-8087 or 393-2691



**RPM RC Raceway**, 201 N. Quincy Street Abington, Massachusetts 02351-1094; Richard Tonetti, (781) 857-2300; email: hobtown@AOL.com; web: www.rpmhobbies.com



**The Hub**, 374 West Street, Uxbridge, Massachusetts 01569; Mike Gordon, 508-278-9888; email: thehub@hotmail.com; web: www.thehub.com



## MICHIGAN

**Backyard R/C Raceway**, Brooks Rd. Brown City, Michigan 48416; Tom Jones, (810)793-0257; email: JONES\_TNT\_2000@YAHOO.COM



**D.R. R/C**, 22789 Northline Rd., Taylor, Michigan 48180; Bobby or Fred, (734) 287-7405; web: www.downriverracing.8k.com



**Freedom Hill R/C Raceway**, 35372 Wellston, Sterling Heights, Michigan 48312; Jim McKenna, (810)268-3996 (810) 268-3996

**Great Lakes Racers Club**, 3810 Lousma Drive, Grand Rapids, Michigan 49588; John Warner, 616-948-9798; email: Gr8LksRacers@aol.com; web: www.rogers3.com/glr/

**Hideaway Raceway**, 6780 Brooklyn Rd., Napleton, Michigan 49201; David Carlisle, 1-517-536-8821; email: adcarlisle1@netscape.net

**Jons Hobby**, 4739 E. Pickard Rd., Mt. Pleasant, Michigan 48858; Jon Beutler, (517)773-5412; email: jonshobby@earthlink.net; web: www.jonshobby.com

**JT Superspeedway**, 825 Golden Av. Battle Creek, Michigan 49015; Jerry or Sam, 616-965-0116

**Larry's Performance R/C's**, 43665 Utica Rd., Sterling Heights, Michigan 48314; Larry, (810) 997-4840

**Lazer RC Speedway**, 2858 N. Wilmoth Hwy., Adrian, Michigan 49221; Russ Johnson, (517) 263-2806

**N.M.R.C.C. Raceway**, Hobby Toy, Main St., Gaylord, Michigan 49735; Gabe, (517) 732-3963; email: hobbytoy@vovoyager.net

**R&L Hobbies & Racing**, 9782 Portage Rd., Portage, Michigan 49002; Rex Simpson, (616) 323-3686; web: www.rlhobbies.com

**R.A.C.E. Inc.**, 3227 Mathews Jackson, Michigan 49203; Sam Sprang, (517) 787-9161

**Raw Roots Race Tracks**, 14623 East Crosswell 1/4 mile north on 152nd (off U.S. 31) West Olive, Michigan 49460; Roy Bennink, (616) 399-9338

**Village Hobbies**, P.O. Box 153; 195 North Elm, Hesperia, Michigan 49421; John Fosdick, 231-854-1374; email: vhracing@triton.net

**Village R/C Raceway**, 45190 Lake Dr., Decatur, Michigan 49045; Chuck Nolke, (616) 423-7878

**Washtenaw R/C Raceway**, 2252 South Main St., Ann Arbor, Michigan 48103; Jim Rousseau, 734-395-5048

## MINNESOTA

**Bruce McCullough Memorial R/C Speedway**, 1215 14th St., Cloquet, Minnesota; Howie Port, (218) 879-5174; email: port.hole@mcworld.com

**Country R/C Raceway Park**, 24214 325th St., Belview, Minnesota 56214-8115; Charles L. Steffi, 507-641-8115

**J's Radio Control Race Park**, 22994 290th Ave., Starbuck, Minnesota 56381; Jay Campbell, (320) 239-4827

**Kevin's Off-Road Raceway**, 702 So. Washington Ave., Crookston, Minnesota 55716-2317; Kevin Altepeter, (218) 281-7523; email: kevin@krcproducts.com; web: www.krcproducts.com

**National Speedway**, 1202 East Moore Lake Drive, Fridley, Minnesota 55432; Steve Hedenland, 763-571-9283; email: mrtip@nationalhobby.com; web: www.nationalhobby.com

**Northwoods Hobby Raceway**, 2638 Hwy 25 North, Brainerd, Minnesota 56401; John or Doug, (218) 829-9257

## MISSISSIPPI

**Meridian RC Speedway**, P.O. Box 229 Meridian, Mississippi 39302; Joe or Pearce, 601-483-7000

**Small Cars Unlimited**, 820 Cooper Road Jackson, Mississippi 39212; Ed Hill, 601-372-3278; email: fast@smallcarsunlimited.com; web: www.smallcarsunlimited.com

**X-Treme RC**, 18332 Amanda Lane Saucier, Mississippi 39574; Marty Capers, (228) 539-2004

## MISSOURI

**B&L Hobbies & Raceway**, 2800 Anchor Dr., Park Hills, Missouri 63061; Bob Marler, (573) 431-9444

**North Missouri Raceway**, 223 Graves St., Chillicothe, Missouri 64601; Billy Johnson, (660) 646-1120

**Novelty R/C Raceway & Hobbies**, RR1 Box 132A, 5th & Main, Novelty, Missouri 63460; Rex & Jena Franke, 660-739-4530; email: rex\_jena@noveltyrcc.com; web: www.noveltyrcc.com

**Ozarks R/C Raceway**, 1923 E. Kearney, North Town Mall, Springfield, Missouri 65803; Gene Rhodes, 417-873-9350(Track); 417-742-4376(Home); email: OzarksRaceway@aol.com

**RCTRAX Racing Club of Central Missouri**, 6150 Old Rt 124, Hallsville, Missouri 65255; Gary Phillippe, 573-886-3799 or 573-442-8183; email: gary.phillippe@verizon.com

**Real Blue Vue R/C**, 12019 E. 47th St. Kansas City, Missouri 64133; Steve Hale, (816) 358-0238; email: hrealrc@aol.com; web: www.geocities.com/real\_rc\_raceway

**Real R/C Raceway**, 24204 State Rt. 58 Pleasant Hill, Missouri 64080; Steve Hale, (816) 540-5584; email: hrealrc@aol.com; web: www.geocities.com/real\_rc\_raceway

**Showtime Speedway**, 3805 N. Chester Ave., Bakersfield, Missouri; Don Risner, (601) 203-1481

## NEBRASKA

**Hadar R/C Raceway**, 55192 849th Rd., Norfolk, Nebraska 68701; John Schoenauer, (402) 644-7922

**Hobby Town Raceway**, 220 N. 66th Lincoln, Nebraska 68505; Chris or Chad, 402-434-5056; email: east-store@aol.com

**Hobby Town USA Raceway Park**, North First St., Cornhusker Hwy., Lincoln, Nebraska 68508; Chad or Chris, 402-434-5056; email: east-store@aol.com

**NESCAR Raceway**, Ashley Park/Broadwell & Capital Ave., Grand Island, Nebraska 68801; Steve Blayney, 308-382-0920; email: spink-g@nbi.com

**O.N.R.O.A.D.**, 3307 N. 58 St. Omaha, Nebraska 68104; Cork Jacobs, (402) 556-8674

**OTWG Carpet Raceway**, 55129 849th Rd., Norfolk, Nebraska 68701; John Schoenauer, (402) 644-7922

**The Salvation Army Speedway**, 4032 Harrison St., Omaha, Nebraska 68164, 402-734-3414

## NEVADA

**Danseys Indoor R/C & Hobbies**, 741 N. Nellis, Las Vegas, Nevada; David Lugo, (702) 453-RACE or (888) 675-8963; web: www.danseys.com

**Las Vegas R/C Raceway**, 6404 Richmar, Las Vegas, Nevada 89139; Patrick Quinn, 702-365-1396; email: mailto:PATRICKQUINN98@lvcm.com; web: www.lasvegascaraceway.com

**T-Rix bikes & R-C shop**, 717 West Idaho St., Elko, Nevada 89801; Gary Perkins, (775)777-8804; email: MTN-MAN14K@HotMail.com; web: N/A

## NEW HAMPSHIRE

**Lakes Region R/C Speedway**, Lilly Pond Road, Gilford, New Hampshire 03246; Louie Blais, 603-524-2909; email: lakeregionrc@hotmail.com; web: www.lakesregionrc.homestead.com/home.html

**RT 106 Racepark**, 743 Clough Mill Rd. Pembroke, New Hampshire 03275; David Daniels, 603-224-7223; email: david@collectracing.com; web: www.106racepark.com

## NEW JERSEY

**Americais Hobby Center Inc.**, 8300 Tonnelle Ave., North Bergen, New Jersey 07047; John Many, (201) 662-0777; web: www.ahc1931.com

**Checkerboard Raceways**, P.O. Box 240, Elwood, New Jersey 08217; Ray Murray, 856-629-9413; email: RaysTrack@webtv.net

**Family Hobbies Raceway**, 3576 N.W. Blvd. & Weymouth Rd., Vineland, New Jersey 08360; Linda Vogel, 856-696-5790

**Jackson R/C Racing**, P.O. Box 565, Christopher Columbus Blvd., Jackson, New Jersey 08527; Al Sodano, 732-364-6422(Al) 732-928-8963(Ed)

**Jefferson Speedway**, 5494 Berkshire Valley Rd., Oak Ridge, New Jersey 07438; Mike, (201) 697-7525

**Millville R/C Oval & Roadcourse**, Cedarville Rd., Millville, New Jersey 08332; William Denstoz, 856-327-4640

**On Trax Hobbies**, 3101 Rte. 70 Browns Mills, New Jersey 08015; Joseph DiGirolamo, (609) 735-0422

**Pottbellies R/C Speedway**, 1039 Landis Ave., Vineland, New Jersey 08360; Drew Anastasio, 856-875-2132; email: Pottbellies\_rc@yahoo.com; web: www.geocities.com/pottbellyrc

**South Jersey Cost Controlled Racing**, 25 Jackson Lane, Sicklerville, New Jersey 08081; Ray Murray, 856-629-9413; email: RaysTrack@webtv.net; web: community.webtv.net/RaysTrack/SouthJerseyCost

**SpeedPro Dragway**, 70 Florida St. Elizabeth, New Jersey 07206; Albie Niziolek, 908-351-5080; email: funny-car176@aol.com; web: www.speedpro.org

**The Race Place**, 1151 Hwy. 33 Farmingdale, New Jersey 07731; John Fary, (908) 938-5215

**Wacky RC Raceway**, 409 East Second Ave., Roselle, New Jersey 07203; Tony Williams or Kimble Wright, (908) 241-6700

## NEW MEXICO

**Albuquerque R/C Off-Road Raceway**, Track:Tom Tenorio Fields on Coors and Arenal ; Mail: 5409 Tamariz Dr. NW Albuquerque, New Mexico 87120; Bill Mitchell, (505)243-0681(W); 898-6181(H); email: bill-bill@home.com

**Big Boys Toys Raceway**, 1735 Juan Tabo Albuquerque, New Mexico 87112; Isaac Garcia, 505-298-1023; email: yoklosi@aol.com; web: www.bigboystoys.theshoppe.com

## NEW YORK

**Barnstormers Speedway**, Koehos Drive, Chester, New York 10918; Lou, 845-469-6468; email: iamsysma@hotmail.com; web: www.barnstormers.virtualave.net

**Brennan's RC Hobbies**, 6368 State Rt. 5, Vernon, New York; Bill or Tom Brennan, (315) 829-4930

**Bruckner Racing**, 2908 Bruckner Blvd. Bronx, New York 10465; Thomas Batters Sr., (800)-288-8185

**C&C Speedway**, 570 Conklin Road Binghamton, New York 13903; Eric Boyd, (607) 773-2044

**Capital District Radio Controlled Stock Car Club**, 27 Venus Dr., Loudonville, New York 12211; Peter Willis, (518) 482-7128; email: rcpete12211@yahoo.com; web: cdrcc-homestead.com

**Chippmunk Hill R/C Speedway**, 217 Pine St., Theresa, New York 13691; Ted or Pete House, (315) 628-5065

**Competition Hobby**, 1006 Loudon Rd. Cohoes, New York 12047; Howie Cummings, 518-786-3622; email: hic300@aol.com

**East Coast R/C Hobbies**, Floyd Bennett Field, Brooklyn, New York 11204; John Giangrande, 718-627-3814

**Fastraks**, Mini Pines Village Hogsburg, New York 13655; Mark Castonguay, (518) 358-3686; email: froghobb@northnet.org; web: www.fastraks.8m.com

**HOBBI ZONE RACEWAY**, 88-16A LIB-ERTY AVE. OZONE PARK, New York 11417; BRIAN, SEAN, OR ADAM, (718)641-9001; email: moonchaser-wolf@aol.com

**Lil Wheels Raceway**, 284 West 5th Street, Oswego, New York 13126; Bill Meyer, 343-6566; email: lilwheelsraceway@hotmail.com; web: lilwheelsraceway.tsx.org

**Long Island Raceway**, 168 Broad Hollow Farmingdale, New York 11735; James, (516) 845-7223; web: www.raceway.com

**MTW Raceway**, 11930 Johnny Cake Hill Rd., Cato, New York 13033; Tim, 888-39-HOBBIY; 315-626-2029; email: docsavage@mtwraceway.com; web: www.mtwraceway.com

**PRO Speedway**, 5 Washington St. Cattaraugus, New York 14719; Marc Pritchard, (716) 257-3101

**Radio Hill Raceway**, 1219 Shannon Corners Rd., Dundee, New York 14837; Bill or Greg, 607-243-8641 (Bill); 607-243-7899(Greg)

**Rampage R/C & Hobbies**, 782 Rt. 9G, Rockledge Plaza, Hyde Park, New York 12538; Brian Walker, (845) 229-1379

**South Shore Hobby & Raceway**, 464 East Main St., Patchogue, New York 11772; Benny or Bonnie, 631-758-5567; web: www.southshorehobby.com

**Southern Tier Raceway**, 88 Paige St. Owego, New York 13827; Anita Harding, (607) 687-5395

**TARMAC Ultimate R/C Raceways**, 28-30 Mountain View Rd., Poughkeepsie, New York 12603; Todd Pluss, 845-342-5409 (Todd); 845-454-8276 (track, Sundays); email: toddp@tarmacraceway.com; web: www.tarmacraceway.com

**Walits Hobby**, 2 Dwight Park Dr. Syracuse, New York 13209; Bruce, 315-453-2291; web: www.walits-hobby.com

**Willis Hobbies R/C Speedway**, 300 Willis Ave., Mineola, New York 11501; Ken Ford, 516-746-3944; web: www.willishobbies.com

## NORTH CAROLINA

**Chapel Hill RC Assoc./Hungates RC Racing**, Hungates-University Mail, 201 S. Estes Drive, Chapel Hill, North Carolina 27514; Tom Gabriel, 919-933-7671; email: chapelhillrc@yahoo.com; web: www.geocities.com/chapelhillrc

**Chatham R/C Raceway**, 300 Reno Sharpe Store Rd., Bear Creek, North Carolina 27207; Dwight Fields, (919) 898-2991; email: chatham\_rc\_speedway@yahoo.com; web: www.chatham-rccspspeedway.com

**R.C.R. Speedway**, 1415 Henderson Grove Church Rd., Salisbury, North Carolina 27337; Ronnie Linker, (704) 737-2565

**Rosewood RC Speedway**, 651 Community Dr., Goldsboro, North Carolina 27530; Glenn Elam, 919-731-4734

**Sandhills Raceway**, P.O. Box 178 Southern Pines, North Carolina; Russel, 910-245-4450; email: mrmrc@mindspring.com; web: www.sandhillsraceway.com

**Southern RC Motorsports Club**, Hwy 17S., PO Box 1651, Shallotte, North Carolina 28459; Eddie Ferster, (910) 754-8528

**The Antique Barn**, 2810 Forest Hills Rd. SW, Wilson, North Carolina 27893; Steve, (252) 237-6778; email: antique-barn@esn.net

## NORTH DAKOTA

**Grand Forks Remote Control Racers**, 915 25th ave so., Grand Forks, North Dakota 58201; Dan Miller, 701-746-9910; email: dandmiller@juno.com; web: mule.puah.org/gfrcr

## OHIO

**AK Hobby & Raceway**, 3826 North Bend, Cincinnati, Ohio 45211; Tim Tolle, (513) 661-7080; email: tim@akhobby.com

**American Ohio Sprint Car**, 1708 Empire Rd., Wickliffe, Ohio 44092; Gary Waldheim, 440-944-9966; web: www.aosca.8m.com

**Black Swamp RC Car Club**, 5333 Monroe St., Toledo, Ohio 43623; Riders Hobbies, 419-843-2931; email: ridersclub@webtv.net; web: www.blackswamprc.cjb.net



**CORCAR / Sams Club**, 128 Amity Rd. Galloway, Ohio 43119-8732; Bill Stevenson, (614) 870-7159



**D&J R/C Raceway**, 801 W. Market St. Orrville, Ohio 44667; Don, (330) 682-4266



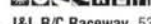
**DeFosse Raceway**, 7652 Gooselick Rd., Ripley, Ohio; Greg DeFosse, (937) 377-2063



**Extreme RC Raceway**, 183 Kittle Rd. Wheelersburg, Ohio; Kevin Rowe, (740) 574-4190; email: extremerc2000@yahoo.com; web: www.ohioxrc.com



**Hobbyland Raceway**, 7460 State Route 7, Proctorville, Ohio 45669; Craig Harber, 740-886-0502 or 740-8868062; email: pitroweracing@webtv.net; web: hobbylandraceway.homestead.com



**J&L R/C Raceway**, 5342 W. State Rt. 718, Troy, Ohio 45373; Mike Wegman, (513) 521-3408; email: lwegman@cinci.rr.com



**Medina R/C Raceway**, 754 N. Court St. #E, Medina, Ohio 44256; Mr. Bill, 330-723-0255; email: mr.bill@nls.net



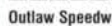
**Mid Ohio Dirt Oval**, 201 E. Main St. Lexington, Ohio 44904; D&D Hobby Center, (419) 884-0001



**Nothing But Air R.C. Track**, 11096 State Rt. 664 North, Logan, Ohio 43138; Gary Lloyd, 740-385-0288



**Ohio Valley OffRoad R/C Raceway**, 51807 Main St. Jerusalem, Ohio 43747; Kevin Wilson, (740) 926-1738; email: consol@1st.net; web: www.ovor.8m.com



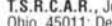
**Outlaw Speedway**, 201 E. Main Street Lexington, Ohio; Eric Radio, 419-884-0001; email: kramenjo@aol.com; web: rcdirtoval.freemove.com



**Riders R/C Club**, 5333 Monroe St. Toledo, Ohio 46825; contact store, (419)-843-2931; email: Ridersrcclub@webtv.net; web: www.ridersrcclub.cjb.net



**River Rat Racing**, 1002 Park Avenue Ripley, Ohio 45167; Jon Farns, 937-392-9298; email: honey3@bright.net; web: www.riverratraceway (under construction)



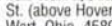
**T.S.R.C.A.R.**, Joyce Park, Hamilton, Ohio 45011; Dennis Young, (513) 367-5634; email: scalaracr@aol.com; web: www.tri-stateracautocross.com



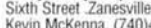
**TARCAR**, 7216 Nebraska Ave., Toledo, Ohio 43617; Bill Bridges, (419) 826-3859



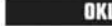
**Ultra Racing R/C Hobby and Track**, 3249 Dixie Hwy., Hamilton, Ohio 45015; Ed Lewis, 513-863-7342; email: UltraRacing@aol.com; web: www.rccaronline.com



**Van Wert R/C Raceway**, 144 E. Main St. (above Hoverman Music) Van Wert, Ohio 45891; Mark Davis, (419) 232-2112



**Y-City Hobby & Speedway**, 120 South Third Street Zanesville, Ohio 43701; Kevin McKenna, (740) 455-3025; email: Kevin@ycityhobby.com; web: www.ycityhobby.com



## OKLAHOMA

**Action Hobbies**, 4955 S. Memorial Tulsa, Oklahoma 74145; David Cole, (918) 663-8998; email: acthobii@aol.com



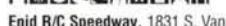
**Action RC Speedway**, 3616 SE 59th Oklahoma City, Oklahoma 73135; Jerry Hawthorne, (405) 670-7770; email: ginna@flash.net; web: www.actionrc.com



**Adams Creek R/C Speedway**, 5207 S. 194th E. Ave., Broken Arrow, Oklahoma 74014; John Beighle, (918) 355-1416



**Competition R/C**, 100 SE 89th Oklahoma City, Oklahoma 73149; James or Louise Brown, (405) 634-0809; email: compcr1@aol.com



**Enid R/C Speedway**, 1831 S. Van Buren, Enid, Oklahoma 73703; Darin Pendleton, (580) 554-9400; email: darin@enid.com; web: www.enidrcrac-ing.com



**HobbyTown USA**, 1264 N. Interstate Dr., Norman, Oklahoma 73072; Todd Jensen, (405) 292-5850



**Wings N Things Raceway**, 5241 S. Peoria, Tulsa, Oklahoma 74105; Heath Anderson, (918) 745-0007



## OREGON

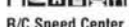
**Competition Racing Association**, 17941 N.E. Glisan, Portland, Oregon 97230; Mark Taylor, (503) 761-1334; email: crajodi@qwest.net or cramark@qwest.net; web: www.users.qwest.net/~cramark



**Dirt City RC**, 1913 17th Ave., SE Albany, Oregon 97321; Doug Vertrees, (541) 791-1089; email: quicktemperrc@aol.com



**R/C Plus Hobbies Raceway**, 1685 25th St. SE, Salem, Oregon 97302; Ron Smith, (503) 364-9188; email: rcpus@rcplus.com; web: www.rcplus.com



**R/C Speed Center**, 2810 N. Pacific Hwy., Medford, Oregon 97501; Gene & Betty Jean Skelton, 541-779-8298

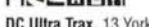


**Rose City Scale Racing**, Jantzen Beach Super Center (K-Mart Parking Lot) Milwaukie, Oregon 97222; Rick Strauss, (503) 631-2929; web: www.rc-cars.com

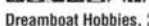


## PENNSYLVANIA

**Courtview Raceway**, 20 S. Main Street (lower level), Washington, Pennsylvania 15301; Aaron Stimmell Jr., (724) 225-0398



**DC Ultra Trax**, 13 York Rd., Warminster, Pennsylvania 18974; David Cowan, (215) 672-5200; web: www.jrcrclub.com



**Dreamboat Hobbies**, 2810 Pennsylvania Ave. W., Warren, Pennsylvania 16365; Louie Dussia, (814) 723-8052; email: dreamboat77@yahoo.com



**J&K Raceway**, 1240 Allegheny Street Jersey Shore, Pennsylvania 17740; Jason Corter or Kevin Casbeer, 570-398-8171; email: rcmanic@msn.com



**Kranzels R/C Raceway & Hobbies**, 415-B Bosler Ave., Lemoyne, Pennsylvania 17043; David or Stuart Kranzel, (717) 737-7223; web: www.kranzelsrchoobbies.com



**Little Plum R/C Hobbies**, 333 Little Plum Run Rd. Lock Haven, Pennsylvania 17745; Larry Duck, (570) 769-1984



**Marshall's R/C Raceway**, RR 4, Box 640, Honesdale, Pennsylvania 18431; Bill or Dot Marshall, (570) 729-7458



**McCullough's Off-Road**, 108 Callen Rd., Sarver, Pennsylvania 16055; Doug McCullough, (724) 352-0116; email: DMCCull323@aol.com



**Newville RC Speedway**, 130 Doubling Gap Rd., Newville, Pennsylvania 17241; Randy or Mike, (717)-776-5547; email: newvillercspeedway@yahoo.com; web: www.newvillercspeedway.com



**Pit Stop Hobbies**, 262 W. Main St. Mount Joy, Pennsylvania 17552, (717) 653-6222; email: pitstophobbies@pitstophobbies.net; web: www.pitstophobbies.net



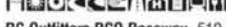
**Racers Edge R/C Racing**, RR#1, Box 271, Smethport, Pennsylvania 16749; Rick Morgan or Johna Simar, (814) 887-2269; email: morg@penn.com; web: users.penn.com/~morg/track.html



**RB Motorsports & Hobby**, Route 147 North, Northumberland, Pennsylvania 17857; Rick Bunting, (570) 473-8711



**RC Avenue II, TrackAddress** Bradensville, Pennsylvania 15650; Chris Demyan, 724-537-9592; email: 12ss@msn.com



**RC Outfitters RCO Raceway**, 519 Broadway, Hanover, Pennsylvania 17331; Chris Shaffer, (717) 633-9490; web: www.rcobobbies.com



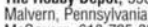
**Riverside Raceway**, PA Ave. W & Hickory, Warren, Pennsylvania 16365; Jeff, (814) 723-4211



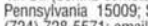
**Schmidts R/C Club(Hobby)**, 4946 Clear Shade Dr., Windber, Pennsylvania 15963; Bruce Schmidt, (814) 266-4118



**Staub Bros. R/C Speedway**, 31 Locust St., Gettysburg, Pennsylvania 17325; Todd or Scott Staub, 717-334-8488; web: user.supernet.com/staub/speed-way



**The Hobby Depot**, 558 Lancaster Ave. Malvern, Pennsylvania 19320; Chris McGovern, 610-725-8317



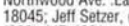
**The Raceway at River Junction**, 1216 4th St. (behind cemetery), Beaver, Pennsylvania 15009; Sam or John, (724) 728-5571; email: riverjct@star-gate.net



**Thunder Hobbies Raceway**, 1715 Route 286 South, Indiana, Pennsylvania 15701; Brent or Lori Marshall, (724) 349-2639; email: thun-derhobbies@hotmail.com



**Track 84**, 920 Mt. Zion Rd., Narran, Pennsylvania 17555; Andrew Flexer, (717) 354-6503



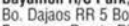
**Trains & Lanes Raceway**, 3825 Northwood Ave., Easton, Pennsylvania 18045; Jeff Setzer, (610) 253-8850 or (800) 447-4891; email: trainslanes@aol.com



**TRP**, 430 Shoemaker Street, Kingston, Pennsylvania 18704; Rob Yeager, 570-283-3066; email: RCROB99@AOL.COM



**WillCam Raceway**, RD #7 Box 53 Punxsutawney, Pennsylvania 15767; James Campbell, (814) 939-4251

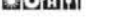


## PUERTO RICO

**Bayamon R/C Park**, Carr: 167 KM 10.1 Bo. Dajao RR 5 Box 4999 PMB 44 Bayamon, Puerto Rico 00956; Damian Cruz & Javier Rivera, (787) 869-8092 & 401-2770; email: damian@bayamon-rcpark.com; web: www.bayamonrc-park.com



**Hacienda Muroz R/C Track**, Carr. #14 Juana Diaz, Puerto Rico 00795, (809) 837-7083



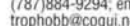
**Hi-Speed C Raceways**, 422 San Caludio Ave., San Juan, Puerto Rico 00926; Carlos Ortiz, (787) 283-0198; email: hisped@hotmail.com; web: www.hispedhobby.com



**Mech Tech Touring Park**, Parque Industrial Sal Aguas Buenas, Caguas, Puerto Rico 00725; HUMBERTO (TITO) LIZARDI, (787) 739-1572; email: tlizardi@hotmail.com



**Tropical Raceway Track**, Carr 643 Km 4.0 Bo Pugnado, Manati PR., Manati, Puerto Rico 00674; Hector Pabon/George Pabon, (787) 854-8884 or (787) 884-9294; email: trophobb@coqui.net



## NORTH CAROLINA

**Atlantic World of Hobbies**, 2458 Remount Rd., North Charleston, South Carolina 29406; Jimmy Closson, (843) 554-3546; email: manylans2go@worldnet.att.net



**Atomic Racers**, 373 Boyd Pond Rd. Aiken, South Carolina 29803; Bill Jackson, 706-855-0846 or 803-725-1664



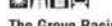
**Carolina R/C Speedway**, 4148 Calhoun Memorial Hwy. (Hwy. 123) Easley, South Carolina 29640; David, 864-295-1209; email: cprahrc@mind-spring.com; web: www.carolinarc.com



**Darlington R/C Raceway at Hobbies & More**, 1570 S. Main St., Darlington, South Carolina 29532; Jerry Pollard, (843) 393-0355; web: www.hobbiesn-more.com



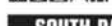
**Hi Voltage Raceway**, 108 Putt Putt Dr. Anderson, South Carolina 29625; Whitner Bowen, 864-225-8680; email: Jahlon247@aol.com



**The Grove Racing Center**, 939 S. Anderson Rd., Rockhill, South Carolina 29730; Don Faris, (803) 327-4121



**The Racing Connection**, 4375 Juniper Bay Rd., Conway, South Carolina 29927-4129; Dave Hamilton, 843-397-0124; email: dad@rccconet.net; web: homepages.about.com/superdave09

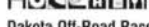


## SOUTH DAKOTA

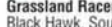
**Action R/C Raceway**, 107 N. Main (entrance in rear - don't send mail), Mitchell, South Dakota 57301; Royal(day); Roger(evenings), (605) 996-9871(days); (605) 996-2897(evenings); email: pioneer@santel.net; web: actionrcrace-way.homestead.com/main.html



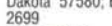
**Boomerans Raceway**, 105 N. Main Hartford, South Dakota 57033; Ed Smithback, (605) 528-7345



**Dakota Off-Road Racers**, 38991 33rd St., Aberdeen, South Dakota 57401; Kevin, 605-225-5223



**Grassland Racers**, 6451 Anderson Rd. Black Hawk, South Dakota 57718; Ryan Logan, (605) 787-5632



**SBK**, 541 Lamro, Winner, South Dakota 57580; Broc Stout, (605) 842-2699



**SBK**, 541 Lamro, Winner, South Dakota 57580; Broc Stout, (605) 842-2699



**Hobby Town USA**, 2000 Mallory Lane Franklin, Tennessee 37067; Bobby Mills, (615) 771-7441; email: htu126@aol.com



## TENNESSEE

**Hobby Town USA**, 2000 Mallory Lane Franklin, Tennessee 37067; Bobby Mills, (615) 771-7441; email: htu126@aol.com



**MSA R/C Racing**, Rt. 12 Box 489 B Crossville, Tennessee 38555; D.R. Findley, (931) 456-0027



**Need For Speed Raceway R/C**, 2103 Dayton Blvd., Chattanooga, Tennessee 37415; Ronnie Cox, (423) 876-9019



**RC Speedway**, 903 17th Street Cleveland, Tennessee 37323; James Morgan, 423-472-7854 or 645-5771; email: jmorga59@bellsouth.net



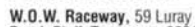
**Robertson's R/C Raceway**, 2811 Hwy 45 South Jackson, Tennessee 38301; Travis Robertson, 731-423-6984; email: RobertsonsRC@aol.com



**ROCKYARD-RC-MOTO-X**, 176 Bloomer Dr., Bean Station, Tennessee 37708; Larry Hazelwood, 865-604-7775; email: daddylaster99@aol.com; web: hometown.aol.com/daddyblaster99/ROCKYARD.html



**SpeedZone Raceway & R/C Hobbies**, Sweetwater Flea Market or 121 Co. Rd 308, SWEETWATER, Tennessee 37874; Mike Henderson, 423-351-0055; email: speedzon@msn.com; web: www.speedzonraceway.com



**W.O.W. Raceway**, 59 Luray Rd. Beech Bluff, Tennessee 38313; Brad Jones, 731-427-1625; email: wowrac-er@bellsouth.net; web: go.to.wowracing



## TEXAS

**215 Speedway**, 1814 County Road 215, Abilene, Texas 79602; Clyde Gardner, (915) 673-2351



**Austex RC**, 1722A West Anderson Lane Austin, Texas 78757; Michael, 512-458-2324; web: www.austexrc.com



**B&B R/C Raceway**, 700 East 4th, Big Spring, Texas 79720; Walter Bumbulis,



**Mike's Hobby Shop Superstore & Raceway**, 1605 Crescent Circle Carrollton, Texas 75006, 972-242-4930; web: www.mikes hobbyshop.com

**Reflex R/C**, 1106C Witte Rd., Houston, Texas 77055; Joseph Chen, (713) 464-4458; web: www.reflexrc.com

**T&M Raceway R/C Drag Racing**, 4150 Beltline Rd., Addison, Texas 75244, (972) 416-0445; email: mjackson@tmraceway.com; web: www.tmraceway.com

**T&T R/C Cars**, 3420 Avenue K, Ste. 154, Plano, Texas 75024; Joe Sullivan, (972) 633-2470

**Texas Speedway/M&M Hobby Center**, 6703 Chimney Rock, Houston, Texas 77401, 713-661-7137; web: www.texasracing.com

**The Rollcage**, 3819 Hwy 34 South Greenville, Texas 75402; Guy Allen, (903) 883-0332; email: rollcage2000@therollcage.com; web: www.therollcage.com

**Thompsons RC Raceway**, 520 E. Laurel, Lufkin, Texas 75901; Mark Thompson, (936) 637-0093

**W.E.S. Hobby Race**, 980 S. Fourth St., Beaumont, Texas 77701; Marty Walker, (409) 839-4929

**X-Treme Hobbies**, 1009 S. Mays "D" Round Rock, Texas 78664; Jef Santos, (512) 310-0444 or (512) 388-3819

## UTAH

**Hobbie Stop Raceway**, 1150 West Riverdale Rd., Suite D, Riverdale, Utah; Todd Hamilton or Beazer Martin, (801) 622-0841

**Intermountain R/C Raceway**, 8481 W. 2700 S. Magna, Utah 84044; David Mott, 801-250-8303; email: rcmother1@aol.com; web: members.aol.com/rcmother1

**Outback Raceway**, 481 North Wall Ave., Ogden, Utah 84404; Steve Brown or Beazer Martin, 801-726-3458; email: Steve@rmrcr.com or Beazer@bibbs.com; web: www.rmrcr.com or www.beazershobbies.com

**Vision Hobby**, 352 N. State St., Orem, Utah 84057; Ken Rice, (801) 226-6226

## VERMONT

**Empire Hobbies Off-Road Raceway**, 272 North Main St., Saint Albans, Vermont 05478; Scott or Jen, 877-446-2243; email: empirehobbies@surlglobal.net; web: www.vtwebs.com/empire-hobbies

**R/C Toy Box Hobbies & Tracks LLC**, 465 School Street, PO Box 21, East Haven, Vermont 05837; Raymond Richard, 802-467-8458; email: rctoybox@excite.com; web: myrcboxbox50megs.com

## VIRGINIA

**Bradis Hobbies**, 1105 Greenville Ave., Staunton, Virginia 24401; Brad, (540) 885-3642; email: bradshobbies@erica.net

**Brown Brothers Hobbies**, 17297 Jeff Davis Hwy., Dumfries, Virginia 22026; Joe or Bob Brown, 703-221-5746; email: joe@bbhobbies.com; web: www.bbhobbies.com

**ORCW Raceway**, 2200 Commerce Parkway, Virginia Beach, Virginia 23454; Les Modlin, 757-340-6681; web: www.debbiesrcworld.com

**Griffin Hobby & Raceway**, 1051 Island Rd., Bristol, Virginia 24201; Danny Griffin & Greg Johnson, (540) 466-3652; email: grjohn@yahoo.com

**Hampton RC Speedway**, 1920 E. Pembroke Ave., Hampton, Virginia 23663; Steve or Bill, (757) 723-1884

**Hampton Roads R/C Drag Club**, 1167 Independence Blvd., Virginia Beach, Virginia 23452; Garry Nelson, 757-399-8645; email: Garry@gsdragracing.com; web: www.HRRDC.com

**KCis Radio Control & Repair**, Rt. 4, Box 312, Lynchburg, Virginia 24002; Curtis or Kim Wright, (804) 384-8596

**Linville Hobbies Raceway**, 7065 Wengers Mill Road, Linville, Virginia 22834; Jerry Shenk, (540) 833-2222; email: linvillehobbies@juno.com; web: www.linvillehobbies.com

**Olde Towne Hobby Shoppe**, 9105 Center St., Manassas, Virginia 20110; Jeff Gough, (703) 369-1197; web: www.oldtownehobby.com

**Shamroc Raceway**, Jim Barnett Park Winchester, Virginia 22601; Denise Fletcher, 540-869-4162

**Stream Hobby Shop**, 10015 Jefferson Ave., Newport News, Virginia 23605; Rusty Kennedy or Jerry Moore, (757) 591-0720

**STREAM HOBBY SHOP**, 10015 JEFFERSON AVE., NEWPORT NEWS, VIRGINIA 23605; RUSTY KENNEDY, 757-591-0720; email: STREAMRC@aol.com; web: STREAMHOBBYSHOP.COM

**The Tiltyard**, 6994 Tiltyard Drive Dayton, Virginia 22821; Homer, 540-828-3476; email: homer@tiltyard.com; web: www.tilyard.com

**Thunder Road RC Speedway**, 18079 James Madison Hwy., Gordonsville, Virginia 22947; Robert Bingle, (804) 296-6549; email: rwb3y@virginia.edu; web: www.thunderradrc.com

## WASHINGTON

**A-Main Raceway**, 14011 NE 3rd Ct., Vancouver, Washington 98685; Monty Coleman, (360) 571-8404; web: www.amainraceway.com

**Burien Toyota R/C**, 15025 1st Ave., South, Seattle, Washington 98148; Ray Meek, (800) 654-6456

**Cedardale Raceway**, 1673 Cedardale Road, Mount Vernon, Washington 98273; Craig, 360-755-9464

**Fantasy World Raceway**, 7901 S. Hosmer, Suite A6, Tacoma, Washington 98408; Dave Kleinman, (253) 473-6223; web: www.fantasyworldhobbies.com

**Four Season R/C Racing**, 2941 Sleater Kinney Rd., NE Olympia, Washington 98506; Gary and Sharon Brown, (360) 491-2430

**Hank Perry Raceway**, 1901 Sullivan Rd., Spokane, Washington 99023; Hal Hudson, 509-879-3503; email: halshudson@msn.com

**HobbyTown USA**, 1901 South 72nd St., Tacoma, Washington 98408; HobbyTown USA Shop, (253) 474-7787

**Paradise Raceway and Hobbies**, 3502 East Wellsley, Spokane, Washington 99207; Mark, 509-483-1843; email: paradiserc@hotmail.com; web: www.websellers.com/paradise

**Race City**, 125 E. Main St., Auburn, Washington 98002; Bruce, (253) 939-2515; email: auburn@pacifier.com

**Rain City RC Raceway**, 3616 South Road, Suite A-3, Mukilteo, Washington 98021; Pete or Debbie Cartwright, 425-438-2454; email: info@raincityraceway.com; web: www.raincityraceway.com

**Redmond Hobbies Raceway**, 16290 Redmond Way, Redmond, Washington 98052; Stan Ng, (425) 885-3639; email: info@redmondhobbies.com; web: redmondhobbies.com

**Schmidt's Auto Parts**, 10305 Smoke Point Blvd., Marysville, Washington 98271; Jon Failla, (360) 653-8838; web: www.schmidtscraceway.com

**Spokane Indoor Raceway**, 6422 E. 2nd Ave., Spokane, Washington 99212; Brian Batch, 509-487-2122

**Tacoma R/C Raceway**, 6305 6th Ave., Tacoma, Washington 98406; Scott Brown, (253) 565-1935; web: www.tacomarcraceway.com

**West Coast Hobby & Raceway**, 2239 Stevens Drive, Richland, Washington 99352; Darren Shank, (509) 375-4995

## WEST VIRGINIA

**Burr Fab R.C. Raceway**, 117 Wabash Ave., West Union, West Virginia 26456; Mark Travis, 304-873-2487; email: burrhouse1@cs.com

**Fulton's R/C Raceway**, 3301 Chapline St., Wheeling, West Virginia 26003; James Fulton, (304) 233-5355

**Mountwood Raceway**, RR 2 Box 56 Waverly, West Virginia 26184; Ryan Taylor, (304) 295-3217; email: ryan@ovrrcc.com; web: www.ovrrcc.com

**Quiet Dell Raceway**, Rt. 6, Box 161G Fairmont, West Virginia 26554; Darris, (304) 366-1441; email: Tateracing@aol.com

## WISCONSIN

**ABC R/C Inc & Raceway**, 244 W. Main St., Waukesha, Wisconsin 53186; Dick Mathiesen, 262-542-1245; email: Help@abcrchobby.com; web: www.abcrchobby.com

**Bestis Hobbies**, 2700 West College Ave., Appleton, Wisconsin 54914; Peggy, 920-734-5244; email: appleton-rc@hotmail.com; web: www.besthobbies.com

**Gary's Hobby Center**, 3701 Durand Ave., Racine, Wisconsin 53403; Bill Phalen, 262-554-8884

**Hobbytown USA - Revolution Raceway**, 3347 Kohler Memorial Drive, #D2-Memorial Mall, Sheboygan, Wisconsin 53081; Kenny, (920) 452-0801; web: www.hobbytownsheb.com

**KDM Raceway**, 711 East Spruce Abbotsford, Wisconsin 54405; Kevin Michlig, 715-223-4414; email: kdmhobby@pcpros.net; web: kdmhobby.homestead.com/kdmhobby.html

**MARCCA Raceways**, 526 S. Monroe St., Monticello, Wisconsin 53570, 608-243-1778; email: asylumrc@yahoo.com; web: www.marcca.com

**Mid-West Tri-Clone/Tri-Clone OffRoad**, 3745 Shuster, West Bend, Wisconsin 53095; Dave Hilpert, 262-334-0429 or 262-626-2238; email: mwtc@hnet.com; web: www.triclone.com

**Pro-Star Racing**, 726 Pine St., Green Bay, Wisconsin 54301; Chuck or Terry, (920) 494-1233 or (920) 469-5566

**S&N's Trackside Hobbies and Raceway**, 6045 N. Green Bay Ave., Milwaukee, Wisconsin 53209; Scott Ernst, (414) 351-1910; email: ernst@trackside.com; web: www.trackside.com

**The Shorthalf Raceway**, 5900 Hwy 93 Eau Claire, Wisconsin 54701; Scott Schoettle, 715-838-8350; email: Scottschoettle@mcleodusa.net

## WYOMING

**Xtreme Hobbies Raceway**, 2812 Dogwood Ave., Gillette, Wyoming 82718; Krig Balls, 307-682-6077; email: xtreme@vcn.com

## ARGENTINA

**Circito R/C Lobos**, Alvear y Quemes Lobos, Buenos Aires 7240; Rupert Brube, 54-02227-422905; email: rclobos@yahoo.com; web: www.rclobos.8m.com

**Circuit M.R. Models**, Av. Monroe 1402, Capital Federal, Pque. San Martin - Cmo. del Buen Ayre y Pte. Debenedetti, Buenos Aires 1428; Maximiliano Roballos, 54 11 4557 1000, fax 4780 1677; email: info@kyosho-argentina.com.ar; web: www.kyosho-argentina.com.ar

**Club A. Velez Sarsfield**, Av. J.B. Justo 9000, C.P. 1408, Buenos Aires; Jorge Herrero, 54-01-658-5851

## AUSTRIA

**A.C.T. Model Car Racing Club**, Wanniasa Raceway, Hyland Place Wanniasa, ACT; Gary Davey, 61-6-2871411

**A.C.T. Remote Control Car Club**, Jenke Circuit, Kambah, ACT; Rob Jorgensen, 61-2-6231-9925; email: bjorgo@isr.gov.au; web: users.bigpond.net.au/grj/actrcc.html

**Aubry R/C Car Club**, Aubry Showgrounds, Aubry, New South Wales 2640; Ron Langman, 060-247-128

**Canberra Off-Road Model Car Club**, Goyder St., Narrabundah, ACT 2604; Graham Brown, 61-6-241-3070

**Carine R/C Model Car Club, Inc.**, Penistone Reserve, Greenwood, Western Australia; David Werner, 61-418922966

**Castle Hill Radio Control Off Road Car Club**, Field 4 Fred Catterson Park Castle Hill, New South Wales 2754; Peter Ellis, 0412 257 353; email: chrccrcc@nextcentury.com.au; web: www2.nextcentury.com.au/chrccrcc

**Central Coast ORRCC**, EDSACC Sports Complex, Bateau Bay, New South Wales 2261; Peter J. Knight, 61-43-693-698

**Illawarra RCECC**, Groome Sporting Complex, Albion Park Rail, New South Wales 2527; Mel or Andrew, 042-714-683

**Lakeside R/C Racing Car Club**, Hollywood Dr., Lansvale, New South Wales 2166; R. Bartolozzi, 62-2-907-9800

**Melton Electric Circuit Car Association**, Salford Car Park Corner High St. and Coburns Rd. Melton, VIC 3337; Arthur Joslin, 61-3-9747-8805

**NSW Indoor R/C Raceway**, Level 4, 208 Forest Rd., Hurstville, Sydney 2220; Anthony Lee or Walter Ly, 02-9585-8810

**Penfield Park**, DSTO Complex Salibury Adelaide, South Australia 5108; Trevor UNew South Walesorth, (618) 8289-5010

**Pine Hills**, Cnr Jinker Track & Bunya Rd., Bunya, Brisbane, Queensland 4053; Jeff Chandler, 07 3355 7476, 041 878 3201; email: smeg666@bigpond.com; web: www.gofast.to/race

**R.C. Speedway**, 259 King Street Newcastle, New South Wales 2300; Andrew Dillon-Smith, 02-49265966

**TFTF - Templestowe Flat Track Racers**, Corner of Porter St. and Williamsons Rd., Templestowe, Victoria 3106; Nigel George, see website; email: tftf@imagefile.net; web: drive.to/tftf

**The Bayside Raceway**, Wynnum Manly Workers Club, Bognor St., Wynnum, Brisbane, Queensland 4178; Nigel Bell, 07 3893 1864; email: mwr1@dingblue.net.au

**Victorian Radio Control Drag Racing Association**, 1 Orchard Av. Rosebud West, Melbourne, VIC 3940; John de Tracy, 03 59820459; email: bjmo1@hotmail.com; web: www.ozemail.com.au/~john59/index.html

**Wee Waa's Offroad RC**, KYEEMA Burren Junction, N.S.W. 2386; Shane, 61-02-6796-1339

**Wodonga R/C Car Club**, 11 Murphy St. Wodonga, VIC 3690; Ron Langman, 61-60-247-128

## AUSTRIA

**RMC-Wien**, Aspernstrasse 5, Vienna A-1220, Herbert Holze/Martin Hrzak, +43-664-4730376

## BARBADOS, WEST INDIES

**R.O.A.R. (Radio Operated Auto Racing)**, Garfield Sobers GYM St. Michael; Marva Clarke, (246) 427-3907

## BELGIUM

**ATR-Alka-Tele-Racing**, 3570 Stationstraat 21, Limburg; Alken, 0032-11-25-49-03

**MBV-Kamphenhout**, Teniersin 28 Kamphenhout B1910; Frank Mostrey, 0-16-65-75-18

**Model Racing Club Oudenaarde (MRCCO)**, Eindrieskaai-Scheldedekant 9700 Oudenaarde; Nicky Delmotte, and fax: 32 55 30 36 25; email: mrccracing@hotmail.com; web: mrccracing.tripod.com

**MRCZ**, Centrum De Burg; Montie, 75-71-63

**R.C.R.**, Peilstraat 43 Retie 2470; A. Eelen, 32-14-379685

## BRAZIL

**Amoc CassiciaAo de Modelismo B. Camborio**, Junto ao Par Que Ecologico de Bal Camborio, Bal. Camborio, South Carolina 88.330-000; Leo Cesar, (047) 366-0001



**Brasilia R/C Motor Circuit**, Estacionamiento do Estadio Mane Guarrincha, Brasilia, DF 70000; Alexandre (Alex), 55-061-273-7205  
  
**C.A.A.R. Curitiba Associacao de Automodelismo Radiocontrolado**, Rua Theodoro Makioka, n. 2300 Santa Candida, Curitiba, Puerto Rico 82650-530; Ronaldo Assumpcao, 55-41-354-2804  


**Electric Car Club R/C Santos**, Av. Bernardino de Campos, 227, Santos, SP 11065-001; Estevam or Arnaldo, 55-013-232-2536  
  
**Hobby Center**, SQS.210 BLH, Apt. 204 Brasilia, DF 70.273, 061-242-0488  


**Hobby Planet Racing Club**, Rod Dom Pedro 1, KM 1315, Campinas, SP 13091901; Daniel, Helio, Luciano, 019 258 2768  
  
**Jungle Drive**, Rua Alberto Maranhao, No. 219 Icha do Gov. Rio de Janeiro, PB 21940-490; Paulo Brito, (021) 396-0851 or (021) 393-7449  


**Off Roaders**, Av. Guillermo Dummont Villars, 317, Sao Paulo, CEP 05640; Waldir Ielpo, (055) 011-260-5628; fax (055) 011-831-4931  
  
**Off Roaders**, Av. Guillermo Dummont Villars, 317, Sao Paulo, CEP 05640; Waldir Ielpo, (055) 011-260-5628; fax (055) 011-831-4931  


## CANADA

**ATN**, Auto Teleguidee Nicolet, 2000 Rue Paul Hubert, Saint-Jean-Baptiste-de-Nicolet, Quebec J3T 1E5; Louis Durand, (819) 293-6097  


**Battlefield R/C Raceway**, County Rd 18, Cobourg, Ontario K9A 2G3; Tony Hopcraft, (905)373-8373; email: tony-hopcraft@yahoo.com; web: www.battlefield-rc.com7.org  


**C.A.R.C.A.R.**, Calgary Horse Shoe Club 4320-78 Ave. SE, Calgary, Simon Smith, (403) 280-9040; web: www.drive.to/carcar  


**Cactus Speedway**, R.R. 3, Ruthven, Ontario N0P 2G0; Terry Torelli, (519) 735-7122; email: osthunder@sympatico.ca; web: www.mnsi.net/~glenn/sparc.htm  


**Cam R/C**, Lansdown Dr., Coquitlam, British Columbia V3E 1K9; Roger Brown, 604-945-3888  


**Circuit J.C.**, 1283 Chemen, St. Philippe St. Polycarpe, Quebec J0P 1X0; Jean Castellon, 450-265-3675  


**Copetown Raceway**, 1223 Powerline Rd E., Copetown, Ontario; Adam Filipowicz; email: adamfilip@home.com; web: copetownraceway.8k.com  


**Dynamic Hobbies**, 21 Concourse Gate, Unit 6, Nepean, Ontario K2E7S4; Fred Zufelt, (613) 225-9634; web: www.members.home.net/roctawa  


**HobbyHobby P.L.R.C.**, 128 Queen St. South, Mississauga, Ontario L5M 1K8; Tom Bakonyi, 905-858-7978; email: Info@hobbyhobby.com; web: www.hobbyhobby.com  


**Honda House Motor Speedway**, 384 Richmond St., Chatham, Ontario N7M 1P9; John Elliot, (519) 354-5530  


**IROCC**, 3005 Cressida Cres., Victoria, British Columbia V9B 5W9; Daryl Jones, (250) 478-8013; email: dbjones@islandnet.com  


**Johns Jump & Grind R/C Track**, 1795 Black Rock Rd., Waterville, Nova Scotia B0P 1V0; John Egan, 902-538-8920; email: john.egan@ns.sympatico.ca; web: www.jiagrc.com  


**J-T International Raceway**, 127 Milligan Lane, Nanapanee, Ontario K7R 8A1; N. O'Neill, (613) 354-0099  


**Kays Hobbies R/C Raceway**, 36 McGivern St. Box 162, Moorefield, Ontario N0G 2K0; Doug Kay, 519-638-9990; email: dougk@golden.net; web: www.kayshobbies.place.cc  


**Leading Edge R/C Speedway**, 731 Gardiners Rd., Kingston, Ontario K7M 3Y5; Mike and Tony Daicra, 613-389-4878  


**Mid-Canada R/C Auto Racing**, Hwy. 1 East, Winnipeg, Manitoba R2J 4E6; Jason McBride, 204-231-3324; email: hjmcb@escape.ca; web: www.geocities.com/midcanadarcautoracing  



**Miniatures & Passions**, 204 St. Charles, #103, Ste. Therese, Quebec J7E 2B4; Gilles Lachance, (450) 979-7989  


**Prince George Radio Controlled Car Club**, 283 Explorer Cres., Prince George, British Columbia V2M 5R9; Doug Waller, 250-561-0035  


**R/C Champ Raceway**, 670 Progress Ave., Rear Unit #13-16, Scarborough, Ontario M1H 3A4; Ben, Matthew or Louie, (416) 289-8717; web: www.rcchamp.com  


**R/C Fanatic**, 3016 Boulevard Du Jardin Charlesbourg, Quebec G1G 3Y4; Marc Page (Club President), 418-265-2678; email: clubrcfanatic@hotmail.com; web: www.rcfanatic.50meps.com  


**Recreation R/C Raceway**, Hwy 16 and Ferry Ave., Prince George, British Columbia; Doug Waller, (604) 561-0035  


**Steeltown Speedway**, 3580 Kirk Road West, Binbrook, Ontario L0R 1C0; Trevor Harrison, 905-692-3407 (ask for Trevor); email: the\_prodigy@zdnetwork.com; web: www.geocities.com/s\_speedway  


**Sudbury Ontario Auto Racing**, 3159 Daniel Ave., Val Caron, Ontario P3E 1E6; Brad Peacock, 705-897-1435(Brad); email: bradrendakyle@sympatico.ca  



**The All New R.C. World**, 2633 Hwy. #6, Mt. Hope, Hamilton, Ontario L0R 1W0; Dave, Larry or Brian, (905) 765-2301 or (905) 333-3297  


**Vancouver R/C Road Racers**, #2-2731 Barnett Hwy., Coquitlam, British Columbia V3E 1K9; Roger Brown, (604) 945-3888  


## CHILE

**OFF/ON ROADERS**, Llama Por Telefono, Santiago, Region Metropolitana 1; Mauricio Wetter Ferrer, (56)09-8404174; email: mwetter@entelchile.net; web: 38939070.home.icq.com/  


## COLOMBIA

**Club De Automodelismo Colombiano**, Centro Comercial Guaymaral, Kilometro 16 Autopista Norte, Sanatafe De Bogota D.C., Bogota; Jorge Delgado, 1-6130588  


**Garoso Raceway**, Avenida Libertadores con Diagonal Gran Colombia Cucuta; Gabriel Rodriguez, 975-751892  


## COSTA RICA

**Club de Automodelismo RC10 Costa Rica**, Villa Olimpica, Desamparados San Jose, San Jose; Osvaldo Averbhoff A., (506)2862353; email: nitrocr@hotmail.com  


## CYPRUS

**Racing Model Club**, Kennedy Ave. N. 42, Nicosia; Andrea Sotiriou, 493186; fax 493229  


## DENMARK

**Brondby Motor Club**, Roskildevej 460 Brondby 2605; Soren Boy Holst, 45-36-472-462  


**Holstebro R/C Buggy Club**, Mozartsvej 7500, Holstebro 2600; Michael Brusholt, 45-97-412-734  


**Klub 144 Raceway**, Bagsvaerdvej 144A, Lyngby 2800; Henrik Carstens, 45-42-88-3691  


**Rainbow Raceway**, Eriksvej, 9 Glostrup, Copenhagen 2600; P. Christiansen, 45-52-848-504  


**Thor Minirace Odense**, Sohusevej 255, Allose, Odense; Ulrich Rasmussen, 45-65-303-707  


## DOMINICAN REPUBLIC

**Adoca R/C Speedway**, Feria Ganadera Santo Domingo, (809) 220-5266  


**La Barranquilla R/C International Speedway**, TrackAddress, Santiago, (809) 582-2303  


## ENGLAND

**Chessington Radio Car Club**, Riverhill Estate, Worcester Park Rd., Worcester Park, Surrey; Ian Spiller, 0252-20657  



**Hampshire Racing Center**, Viabes Craft Center, Basingstoke, Hampshire; Tony Eudola, 44-1276-61402  


**Hinckley RCCC**, Three Pots Inn, A5 Wathing St., Hinckley, Leicestershire; Bruce, 01455-890580  


**Snetterton Market Model Car Club**, The Snetterton Market, Norwich, Hampshire NR16 2JU; Lee Shore, 01760 724857; email: kekezza@fsmail.net; web: www.wheel-spins.co.uk  


**Worcester Model Car Club**, Christopher Whitehead High School, Bromwich Rd., St. Johns, Worcester WR2 609; Mr. Hardy  


## FRANCE

**Auto Electron**, 35, rue B. de Ventadour Limoges 87000; M. Boudoul, 55 062763  


**Auto Model Club de l'ouest**, 45 rue de Menez Lojerhet 29470; Peuziat Michel, 98071764  


**Crame Ronca**, 64 Rue Du Becquerel Mons el Baroeul; Michael Hondekyn, 33-20042755  


**CSRM**, 17 Grande Rue Ave., de Saint-Rambert Lyon 69009; Pierre-Yves Monfroy, 06 78880852  


**Lorgies Bolides**, Rue Beau-Riuz Lorgies 62840; Hourdequin Sabine  


## GERMANY

**Dreykorn Raceway**, Heuchlinger-Hauptstr. 43, Lauf 91207; Hermann Hensel, 09123-81457  


**MAC Zweibruecken**, Mauerstr. 19 Hueffler 66909; Matthew Bailey, 011-49-6384-1388; email: matthew\_w\_bailey@hotmail.com; web: www.geocities.com/matthew\_w\_bailey  



**MC Köln**, Bottgerstr. Worringen 50769; Ralf Habel, 02733-477493  


**Mini Car Club Dortmund**, Kortschstr. 4 Dortmund 4600; Roland Schwan, 0231/213609  



**Oberhausen-Aitstaden**, Am Fserderturm, Oberhausen 46099; Josef Holl, 0208-403676  


**Panik Raceway**, Teutonen Str. 5 Troisdorf 53844; Guido Kraft, 0224-400259  



## GUAM

**R/C International Raceway**, P.O. Box GK Agana; Robert (Buddy) Simpkins, (671) 477-3207  


## HONDURAS

**Autodromo Accion**, Quinta Santa Maria San Pedro Sula; Colonia Rivera Hernandez; Eduardo Hondal, (504) 52-2061  


## HONG KONG

**H.K.R.C. Model Car Racing Club**, Lot 2130-2137, Ko Po Tsuen, Sha Tau Kok Rd., N.T., Hong Kong; Alex Chan, (852) 659-2822  


**Kingsville Buggy Arena**, Wong Chuk Yung Village, Shatin; Pak Yeung, (852) 607-0828  


## INDONESIA

**1st Circuit**, Kompleks Villa, Kalijuduh Indah, Surabaya, 62-31-5681965  


**Ancol**, Jalan Danau Sunter Selatan Block 03/60, Jakarta, ACT 14350; Andre Supriyana, 62 21 6506040; email: andre@cbn.net.id; web: www.auvis.com/ja  



**Jakarta International Twin Circuit**, Gelora Senaya Unit 4, Dki Jaya, Jakarta; Fayakhun Andriadi, 6221-7512430; email: fayakhun@soon.com  


**Karinda Off-Road R/C Car Model Circuit**, Perumahan Bumi Karang Indah Jakarta-Selatan 12440; Wiwid W. Soedarmadi, 62-21-7900878  


**Pondok Cabeircut, JL. Kunir No. 83**, Pondok Cabe, Ciputat, Jakarta; Ali Agus Salim, 7403568-9; fax 7491533  


**Sentul World Hobbies**, Citeureup Bogor Jawa Barat, Hartanto; Ian Sentul, 42 62-21-751-2439  


## ISRAEL

**Ircca Off-Road**, TrackAddress Rahanana; Yaron Zafris, (972) 030549937  


**Nahshoneat**, Abba Nilel Silver Str. 64 Haifa 32809; Golan Levy, (972) 039386444 or (972) 04231252  


## ITALY

**AF MODELS RINGS**, VIA ANTICA DI RIVOLI 21, COLLEGNO, ACT 10093; ADRIANO FORATO, +39.335.82.58.434; email: afmodels@rm-net.it; web: www.afmodels.com  


**JAPAN**  


**Kadena R/C Car Club**, PSC 80 BOX 15389, APO, AP 96367; Ron Nason, 011-81-611-733-1334; email: Ron\_Nason@hotmail.com; web: home.attmil.ne.jp/b/Carmen\_Nason/home.htm  



**NITRO RACERS**, CHULA VISTA, san jose del cabo / los cabos; FRANCO MEZA, (114) 1424422; email: tcstafe@prodigy.net.mx  


**Xhwakuni R/C Track**, PSC 561, Box 978, FPO AP 96310-0978; David T. Eck, 81-6117-53-3662  


**Yokota R/C Racers**, PSC #78, Box 3889, Tokyo, APO AP 96326; Donnie Leornas, 81-3-11-757-2012 or 755-2272  


**Zama Off-Road Raceway**, 17th ASGCM Unit 45013, Box 3232, APO AP 96338; Ken Campbell, 81-3117-63-8478  


## KUWAIT

**Inferno DX 4WD Track**, P.O. Box 9167 Ahadi 61002; Yousuf Acqatari  


## LEBANON

**Wild Willy RCC**, Oscar St-Jal Eddie Beirut, 00961-4-403751  


## MALAYSIA

**ACME SPEEDWAY**, 35, Konkos 4, Level 4, Komtar, Georgetown, Penang PB 10000; MOEY CHEE CHEONG, 604-2613175 & 6012-4189388; email: s\_jamm@hotmail.com  


**Jump Square Arena**, Al12.SG, Buloh N/V, 47000, SG, Buloh, Selanhor, Thomson Chong, (603) 656-2513  


**Titilwangs Raceway**, Lot 128, Ampang Park, Shopping Centre, Kuala Lumpur; R.A.C.E. Sdn Bhd., 03-2614496  


## MEXICO

**Alces Off Road**, Lopez Mateos y Rayod S/N, Ensenada, BC 22830; Jorge Bustamante, 667-6-1476, 61477, 86729  


**Baja Jr of GDL**, N. Heroes Esq. Delicias, Tlaquepaque, Jalisco 44000; Guillermo Asencio, 01-3825-3169 / 3671-5432; email: memosencio@prodigy.net.mx  


**Cinamo Coca-Cola**, Ruiz Cortines 620 Col. Central de Carga, Guadalupe, Nuevo Leon 67120; Sergio Garza, 83- 35-70-09/79-32-33  


**Club Kyosho de Automodelismo Departano**, Av. Pacifico #216 Col. Real de los Reyes, Coyoacan, Mexico, D.F. 04330; Jorge Perez Holder, 525-5689-4150; fax 525-5544-7133; email: spedshop@data.net.mx  


**Hobby Centro**, 12 De Diciembre No. 3070-A, Guadalupe, JAL 45550; Alejandro Ortiz Del Toro, 36-21-46-28  


**Hobby Model's Raceway**, Blvd. Garcia de Leon, 1555, Morelia, Michoacan 58260, 431-5-01-22  


**Hobby's Formula**, Au observatorio 457, DF 01120, 905-502-3620  


**Jaguar R/C Club**, Calz. Zavaleta 116 Puebla 72150; Denise or Chiro, 22-31-00-91, 22-33-00-94  


**La Hielera**, Prol Corregidora Nte 350 Queretaro, QRO 76160; Jorge Morelos Rabell, 42-12-15-25  


**Micromotori Club**, Calle Villa Juarez S/N Angola Santa Ana Tepetitlan Jalisco, Jalisco 44640; Francisco Ortiz Sevilla, 52-36418672; email: fstmmyr@hotmail.com  


**NITRO RACERS**, CHULA VISTA, san jose del cabo / los cabos; FRANCO MEZA, (114) 1424422; email: tcstafe@prodigy.net.mx  




**Pista Casino**, Hotel Casino de la Selva Cuernavaca, Morelos 16507; Luis Duhart, 73-19-12-38



**R/C Racing Club**, Obsidiana #2900 Zapopan, Jalisco 44560; Fernando Hernandez, 3-616-73-47



**Tony's Track**, Oregon 364 Sur Culic-n, Sinaloa; Guillermo Prieto, 67-165708-168141



## NETHERLANDS

**ERCE Eindhoven**, Oude Bosche baan Eindhoven, ACT 5627In; Henk Fick, 040-2480607; email: info@erceracing.nl; web: www.erceracing.nl



**H.F.C.C. Hollandia**, De Werf 60, The Hague; G. de Jong, 031-070-3679820



**M.A.C. Vlymen**, Nieuwkuikseweg, Nieuwkuik; Arjan van de Graaf, 31-416-376298



**R.C.T.D. Circuit**, Madame Curlestraat 20, Dordrecht, Zuid Holland 3316 GN; Jan van Kooij, 31-78-618-11-84; email: pkracing@bit.nl; web: www.pkracing.nl



## NEW ZEALAND

**Capital Model Racers**, Avalon Lower Hutt; Roger Whitmarsh, 04-566-5714



**Counties R/C Raceway**, Pukekohe Showgrounds, Station Rd., Pukekohe; R. Northcott, 09-23-86904



**Harewood Radio Control Car Club**, 550 Sawyers Arms Rd., Christ Church; Dean Johnson, 09-0-3880 344



**Papakura Indoor R/C Car Club**, 25 Tainere Cres., Papakura, Auckland; Colin Perry, 09-298-4711



**Western District R/C Off-Road Car Club**, CNV Bancroft/Akatea Drive Auckland; Chris, 09-838-5201



## NORWAY

**Aurskog R/C Club**, Aursmoen, 1930 Aurskog; Tommy Gjeleseth, 47-63-86-21-61



**Dalen Raceway**, P.B. 728, 6401 Molde; Johnny Reitan, 94 64 52 95



**Hadeland Raceway**, 2750 Gran. Gran; Dag Bakke-Nilssen, 61330405



**Lornskog RC Bane Track**, 1432 Sorli Sorlihavna; Terje Rosemo, 47-952-44269

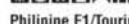


**Store-Baller Raceway**, 2750 Gran 3/17/99 61330225; Ola Raastad



## PHILIPPINES

**Boyer R/C Hobby Shop**, Unit No. 10 Lucas Commercial Center, Marcos Hiway Rizal, Jose Chua, 721-2555



**Philippine F1/Touring Club**, Super Mall I, EDSA, Quezon City, Manila 1156; Raymond Aguilar/Ron Villafior, 896-64-15/23-30-08



**Philippine R/C Association**, B.F. Homes Paranaque, Manila; Ronald/Manny Villafior, 23-30-08



**QCRCC Track**, Quezon City Circle Quezon City, Manila 1008; Emer Agero, 063-3386189; email: emerli-tao@quickweb.com.ph; web: www.qcr-ccc.cjb.net



## PORTUGAL

**Aero Clube da Madeira**, Rua do Castanheiro E-2, Funchal, Madeira, fax: 091-221265



## SOUTH AFRICA

**B.R.C.A. Boksburg Radio Car Association**, c/o Wannenburg & Dayan Rd., Dayanglen, Boksburg; email: recycle@metactive.co.za; web: www.recycle.co.za



**Banana County R/C Racing Club**, P.O. Box 988, Margate 4275; Dennis Steenmans, 27-0-391-20975



**Frantic Raceway**, Santam Plaza, Shop 16B, Welton; Wayne Roodt, 27-57-35-72849



**Gordons Bay R/C Club (GBRC)**, Andrew Norman Sports Centre Gordons Bay, Cape Province; Andre Hollander, 024-512865



**Grand Prix Electric Car Club**, K90 Shopping Centre, Boksburg, Gauteng; Gary Gibson, 27-11-826-1720



**Helderberg Radio Control Car Club**, De Beers Soccer Club, De Beers Ave, Somerset West, Cape Province; Andre Hollander, 024-51-2865



**Lowveld Radio Control Thunderdrome**, Lions Club Kanyamazne Rd., Nelspruit, Eastern Transvaal; Martin Van Der Merwe, 01311-534-6415



**MERC Racing**, P.O. Box 1721 Rustenburg, RSA 0300; Gerrie Pretorius, 014-5974569



**Norkem Raceway Club**, Norkem Park Mall, Kempton Park, Gauteng; Dan de Agrella, 2711-972-7011; email: craig@mwweb.co.za



**Parow Radio Car Club**, Northern Sports Complex, Parow, Cape Province; Stirling Spengler, 021-945-4957



**Parow Radio Control Car Club**, Parow Sports Club, Parow, Cape Province 7530; Craig, +27 21 919-5859; email: craig@kingsley.co.za; web: www.speedmodels.za.org



**Phoenix Raceway**, 1 Tugela St, Stillfontein, Transvaal; Lionel Edwards, 018-4842863



**Pick 'n' Pay Model Car Club**, P.O. Box 11654, Klerksdorp 2570; H. Grobbs, (27) 18 46245421



**Pietersburg Model Racing**, Landros Marais St., Pietersburg, Northern Transvaal; Peter Van Vuuren, 0152-293-0700



**Pretoria Model Racers**, Waverly Shopping Plaza, Pretoria, Gauteng; Deon Cerf, 27-083-630-2045; web: www.pretoriaamr.co.za



**Pretoria Off Road R/C Club**, Joost Bekker Caravan Park, Decemberville Pretoria, Gauteng; Gert Swart, 012-377-3238



**R.A.C.E. Off Road**, Cecil Payne Stadium, Maraisburg, Gauteng; Derrick Plank, 682-2173



**R.C. Superbowl**, Elsburg Sports Grounds, Elsburg, Johannesburg; Karl Fawcett, 27119076145



**Rustenburg Off-Roaders**, Olympia Stadium, Rustenburg, Northwest Province; Jan Van Vollenhoven, 0142-24-846



## SPAIN

**A.D. Diablos**, Morata De Jalon, 50.260, Zaragoza; Carlos Vicente de Vera, 34-76-605350



**ADAM**, Mina Flores de la Sienna Madrid; Alvaro Sarabia, 01-7471113



**Club Modelismo Catilla**, P.O. Box 491 Burgos 09080; A.J. Pereda, 34-47-240130



**Club Social Sevillana**, Crta. Pulianas S/N, Granada; Oscar Saenz, 958-275282



**CRAEM**, La Elipa, Madrid; Pablo Llorente, 91-3865952



**Motoclub Castellon R.C.**, Rafalafena, S/N, 12004, Castellon; Octavio Traver, (34) 64 229705, (34) 64-237411



**Outlaw-Ultima II**, Puerto Rico 27 Madrid 28016; Juan Vacas, 915197298



## SWEDEN

**Amalie Racetrack**, Hjort Vagen 14, Sollenbrunn 5-46632; Tage Johansson



**PROCAR Speedway**, Industrigatan 8 Veddinge 430 20; Lars Nordin, 46-0-340-38784; fax 46-0-340-38694; email: info@procar.se; web: www.procar.se



**Sollenbrunn Miniracing Club**, Enehagsgatan 63 SE-441 57 Alingsaas; Tage Johansson, 46-322-40944; email: tage.j@swipnet.se



**Staffanstorps Highway 1:8 Track**, Nummer Ettavagen 5, Vag 108 fran Staffanstorps, Staffanstorps 245 45; Birje Petersson, 46 0 46-256832



**torvinge raceway**, piparegatan 8 rappestad, SP 59047 vikingstad; mats johansson, 013-808445; email: mats.j@swipnet.se; web: drive.to/miraci

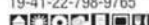


## SWITZERLAND

**E.M.B.C.M. Raceway**, Bahnhofstr. 28 Seinen CH-8854; Markus Schmid, 41-1-8605229



**ERMC Raceway**, 14 Ch de Tavernay Grand-Saconnex 1218; M. Maurer, 19-41-22-798-9765



**JMRCV-Terrain du Levant**, Chemin ou Levant, Geneva 1290, fax 19 41 22 7790805



## THAILAND

**Hobbica Circuit**, 83 Moo 13, Petchakasem Rd., Plong Maduea, Maung, Thailand 73000; Mr. Supakiet Thuwachardenpanich, 66-34-258808; email: hobbica@yahoo.com



**Hot Rod Raceway**, 6/3 Soi Soonvijai Phetburi Rd., Hueykwang Bangkok 10310; Mr. Vichai Vongphate, (662) 8602922-5



## TURKEY

**B&B OTO G ven Raceway**, Gaziosmanpasa Sokak Kadi'ky, Goztepe Parki, Istanbul, 0216-4186118, or 0216-3490742



**BASKENT OTOPARK RACEWAY**, KADIKOY POST, ARKASI KAT OTOPARKI TERASI KADIKOY, ISTANBUL, ACT 81190; KAN CIFTCI, +90 (216) 3486332 +90 (532) 3558626; email: taneri@superonline.com



**Capital Speedway**, Yavru oyuncak Atakule, Ankara; Apo, 903124401806; email: dosdemir@ixir.com



**Mustang Hobbies Raceway**, Bayramolu Mevkii, Istanbul; Murat Esibatr, 902163863171 (1that); email: dosdemir@ixir.com; web: www.mustanghobbies.com.tr



## VENEZUELA

**R/C Mariche**, KM4 Zona Industrial, Del Este Via Mariche, Caracas DF 1070-A; Bruno Morganti, 58-02-241-3969, or 241-4993



**Santa Paula R/C Club**, Polideportivo de Santa Paula urbanization, Caracas; Abecasis or Franco Agrusa, 02-2423954 or 02-4510314



## WEST INDIES

**Island Raceway**, 8 Mile Post Jacks Hill St. Andrew, Jamaica; Rodney Littau, (809) 926-7034 or 927-1198



## ZIMBABWE

**Mosi-Oa-Tunya**, H9619 Highland Harare, Harare Country, Masloraland 46237, 46237

## ATTENTION TRACK OWNERS!

Have your track listed in  
RC Car Action's Track  
Directory today! **It's free!**



Enter your track information on line at  
[www.rccaraction.com/info/track\\_directory\\_form.asp](http://www.rccaraction.com/info/track_directory_form.asp)

or fill in this form and mail to  
Track Directory  
Radio Control Car Action  
100 East Ridge  
Ridgefield, CT 06877-4606 USA

Track Name

Contact

Country

Address

City

State

Zip

Phone no. (required)

Email

Website

Check all that apply

- ☐ Indoor
- ☐ Outdoor
- ☐ Off-road
- ☐ Oval
- ☐ Dirt
- ☐ Carpet

- ☐ Concrete
- ☐ Asphalt
- ☐ On-site
- ☐ hobby
- ☐ shop
- ☐ AC power

- ☐ Automatic
- ☐ lap-counting
- ☐ Food available



## ADVERTISER INDEX

<b>Ace Hardware Hobbies</b> 212-213	HG 47	<b>Monster Truck book</b> 163	<b>Robinson Racing</b> 60-63
<b>Ace Hobby Distributors</b> 142	HPI 24-25, 66-67	<b>Morgan Fuel</b> 170-171	<b>RPM</b> 99
<b>Action Hobbies</b> 198	<b>HRP Distributing</b> 27	<b>Mugen USA</b> 45	<b>Serpent</b> 154
<b>Airtronics</b> 132	<b>Hardcore Racing</b> 58-59	<b>Nagengast</b> 211	<b>Sheldon's Hobbies</b> 196-197
<b>Alciad</b> 228	<b>Hitec RCD</b> 39	<b>New Era Models</b> 153	<b>Silver State Nitro Challenge</b> 227
<b>America's Hobby Center</b> 176-177	<b>Hobby Etc.</b> 199	<b>Nitech</b> 211	<b>Southside Hobbys</b> 221
<b>B&amp;B Software</b> 228	<b>Hobby Horse</b> 195	<b>Nitro Elements</b> 151	<b>Stormer Hobbies</b> 216-219
<b>BRP Racing</b> 228	<b>Hobby People</b> 200-205	<b>Novak Electronics</b> 23	<b>Tamiya</b> 14-15, 42-43, 64-65, 191
<b>Boca Bearing</b> 171	<b>Horizon Hobby Inc.</b> 168-169, 226	<b>OFNA Racing</b> 18-19, 55, 57, 116-117	<b>Team Associated</b> 74-77, 128, 162
<b>Bolink</b> 220	<b>Hot Bodies</b> 130	<b>Omni Models</b> 155	<b>Team Losi</b> 40-41, 134
<b>Bolt-On</b> 104	<b>Hudy Special Products</b> 73, 119	<b>O.S. Engines</b> 159	<b>Team Orion</b> 29, 131, 198
<b>Brooklyn Hobbies</b> 160	<b>IMEX Model Co.</b> 109	<b>Parma Intl.</b> 100	<b>The Hobby Store</b> 198
<b>Bruckner Hobbies</b> 178-179	<b>JR</b> 52-53	<b>Peak Performance</b> 96	<b>Tower Hobbies</b> 185-190
<b>Buyers' Guide</b> 133	<b>Keyence Corp.</b> 174	<b>Powerline Racing Products</b> 152	<b>Tranlex Development</b> 170
<b>Competition Electronics</b> 98	<b>Kondo Kagaku Co. Ltd.</b> 106	<b>Precision Model Distributors</b> 211	<b>Traxxas</b> 48-49, 86-87,
<b>CVEC</b> 167	<b>Kyosho</b> 28, 93, 94-95, 108, 119	<b>Pro-Line</b> C3, 6-9, 146, 229, 232, 242	<b>Trinity</b> C4, 3-5, 10-13, 34, 36-37, 129
<b>Du-Bro</b> 107	<b>Lite Machines</b> 194	<b>RC Nitro subscription</b> 147	<b>Ultimate Hobbies</b> 158
<b>DuraTrax</b> 85, 127, 143	<b>LRP Electronic</b> 30, 183	<b>RC Car Kings</b> 222	<b>Varad/RC Neon</b> 171
<b>Dynamite</b> 20-21	<b>Lunsford Racing</b> 200	<b>RC Concepts</b> 198	<b>W.S. Deans Co.</b> 166
<b>ERI Associates</b> 211	<b>M.D. Planes</b> 214-215	<b>RC Madness</b> 171	<b>XXX Main Racing</b> 184
<b>ESP Hobby</b> 228	<b>MIP</b> 175	<b>RC Nitro magazine</b> 147	<b>Yokomo USA</b> 161
<b>Futaba Corp. of America</b> 97, 141	<b>Mach 1 Hobbies</b> 211	<b>RC Rage</b> 194	<b>WRAM Show</b> 223
<b>GS Racing</b> 32-33	<b>Megatech</b> 118, 209	<b>Robins Racing</b> 211	<b>Xtreme Engineering</b> 126
<b>Genka Trading Corp.</b> 78-79	<b>Medial Pro</b> 31		
<b>Global Hobbies</b> 50-51, 137	<b>Model Rectifier Corp. (MRC)</b> 17		

**RADIO CONTROL CAR ACTION** (ISSN 08861609, USPS 001-087, IPM 1534580) is published monthly by Air Age Inc., 100 East Ridge, Ridgefield, CT 06877-4606 USA. Copyright 2002, all rights reserved. The contents of this publication may not be reproduced in whole or part without the consent of the copyright owner. Periodical postage permit paid at Ridgefield, CT, and additional mailing offices.

**SUBSCRIPTIONS.** U.S. and Canada, call (800) 877-5169; fax (815) 734-1223, or set your Web browser to <http://www.rcstore.com/subscribe.html>. U.S., \$27.95 (1 year), \$49.95 (2 years); Canada, \$39.95 (1 year), \$74.95 (2 years). Canadian prices include GST, reg. no. 13075 4872 RT. Elsewhere, call (815) 734-1116; fax (815) 734-1223; \$49.95 (1 year), \$89.95 (2 years). All foreign orders must be prepaid in U.S. funds; Visa, MC, Discover and AmEx accepted.

**EDITORIAL.** Send correspondence to Editors, *Radio Control Car Action*, 100 East Ridge, Ridgefield, CT 06877-4606 USA. We welcome all editorial submissions, but assume no responsibility for the loss or damage of unsolicited material. To authors, photographers and people featured in this magazine: all materials published in *Radio Control Car Action* become the exclusive property of Air Age Inc., unless prior arrangement is made in writing with the Publisher.

**ADVERTISING.** Send advertising materials to Advertising Department, *Radio Control Car Action*, Air Age Inc., 100 East Ridge, Ridgefield, CT 06877-4606 USA; phone (203) 431-9000; fax (203) 431-3000.

**CHANGE OF ADDRESS.** To make sure you don't miss any issues, send your new address to *Radio Control Car Action*, R.O. Box 427, Mount Morris, IL 61054-9853 USA, six weeks before you move. Please include the address label from a recent issue, or print the information exactly as shown on the label. The Post Office will not forward copies unless you provide extra postage.

**POSTMASTER.** Please send Form 3579 to *Radio Control Car Action*, R.O. Box 427, Mount Morris, IL 61054 USA.

## RADIO CONTROL *car action* Customer Service

Thank you for joining the Air Age family of publications where you can explore the exciting worlds of radio control and aviation.

These tips will help you get the most out of your subscription:

### How to read your label:

EXNEMG AUTO 3-DIGIT 068  
#12345ABC123AB12C# AUG 03 RCCA 000

Your account number is  
12345ABC123AB12C.

Your expiration date issue is August  
2003.

### How and when to tell us of an address change

Address changes should be requested before you move. Our labels are printed ahead of time, so please allow 4-6 weeks for the change to take effect. Please include a copy of your current label. Send all address changes to:

RC Car Action  
P.O. Box 427  
Mount Morris, IL 61054

You may also contact us via email at  
[RCCA@kable.com](mailto:RCCA@kable.com), or fax (815) 734-1223.

### Our cancellation policy

All cancellations must be requested in writing. You may send in your request via mail, email or fax. You will be sent a refund for all unserved issues.

### Our renewal policy

Renewal notices are sent six months prior to your expiration date (see label above). You may renew your subscription via mail by sending in your renewal invoice with payment. For faster service, renew online at  
[www.rccaraction.com](http://www.rccaraction.com)

Effective October 2001, **the best deal will be in the first renewal notice you receive.** By renewing early and for a longer term, you create savings for us, which we pass on to you. So always check your first renewal effort for the lowest price available.





The inventor at work in his laboratory.

This is Michael Norton's yet-unnamed robot that he built for the Skills Canada Robot competition, which is open to all Canadian high school students. The Skills program supplies each contestant with a robot kit that contains six Airtronics servos (four standard, two giant scale); six stock motors; six 3.5:1 airplane gearboxes and a 6-channel Airtronics radio and receiver. It's up to each contestant to supply any other parts.

## CREATIVE GENIUS!

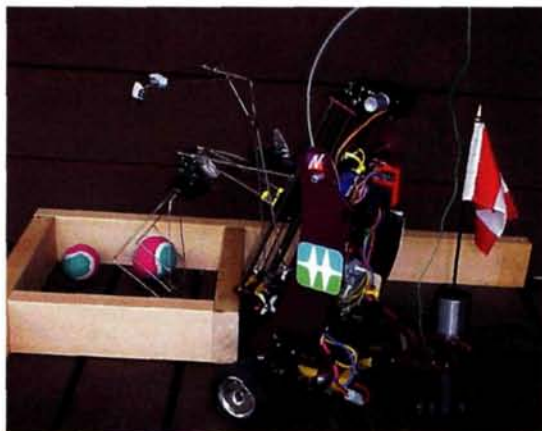
Michael showed tremendous creativity and resourcefulness in this project; for example, the supplied 3.5:1 gearboxes created too much speed and too little low-end pushing power. What did Mike do? He used some gears from a trashed computer printer to modify the gearing reduction to meet his robot's requirements. When Mike couldn't get the two motors that independently drove the two main drive wheels to create steering that was sufficiently fluid, he used a 2-channel airplane elevon delta-wing mixer (which mixes elevator and ailerons) to smooth things out. This guy is no dummy.



Michael's robot does that monster-topple thing with its lifting mechanism.



Left: the robot features a belt-driven lifting mechanism made from a printer head slide. The belt is driven with a "hacked" giant-scale servo. A pinch claw hangs off the lifting arm.



Right: practicing for the tennis tic-tac-toe ball-drop event, the object of which is to win a game of tic-tac-toe using your team's balls (red balls vs. blue balls). At the center of the arena is a tic-tac-toe-shaped box. Note the counterweight mounted over the rear caster wheel assembly; it prevents the robot from falling forward.

Mike's design made it all the way to the finals but was beaten by a machine with a lower center of gravity. He is only in the 10th grade and has two more years to improve his design. I can't wait to see what he comes up with.

In the beginning, Mike was a lone pioneer. It wasn't until he was conducting some initial test runs **that a few** of his school buddies decided to jump on the bandwagon. Just remember, all you guys out there: they laughed at Robert Goddard, but today, we're rocketing our way to Mars! Be a pioneer and follow Mike's example **because he's a maverick**—my kind of guy. •

